TETRA TECH

February 8, 2019

Ms. Yvonne Smith
EPA On-Scene Coordinator
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

Subject: **Removal Assessment Final Trip Report**
KCS&R on Guinotte Site, Kansas City, Jackson County, Missouri
U.S. EPA Region 7 START 4, Contract No. EP-S7-13-06, Task Order No. 0179
Task Monitor: Yvonne Smith, On-Scene Coordinator

Dear Ms. Smith:

Tetra Tech, Inc. is submitting the attached Removal Assessment Final Trip Report regarding the Kansas City Smelting and Refining on Guinotte site in Kansas City, Jackson County, Missouri. If you have any questions or comments, please contact the Project Manager at (816) 412-1760.

Sincerely,

Lauren Holt
START Project Manager

Ted Faile, PG, CHMM
START Program Manager

Enclosure

cc: Debra Dorsey, START Project Officer (cover letter only)

40550590

X9025.17.0179.000

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REMOVAL ASSESSMENT FINAL TRIP REPORT

KCS&R ON GUINOTTE SITE
KANSAS CITY, JACKSON COUNTY, MISSOURI

EPA ID: MON000706446

Superfund Technical Assessment and Response Team (START) 4
Contract No. EP-S7-13-06, Task Order No. 0179

Prepared For:

U.S. Environmental Protection Agency
Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

February 8, 2019

Prepared By:

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APPENDICES

1.0 INTRODUCTION

Tetra Tech, Inc. (Tetra Tech) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division, under Superfund Technical Assessment and Response Team (START) 4 Contract Number EP-S7-13-06, Task Order Number 0179, to conduct a Removal Assessment at the Kansas City Smelting and Refining (KCS&R) on Guinotte site (the site) in Kansas City, Missouri. The primary objective of the project was to evaluate whether there are any threats to human health or the environment from past smelting activities at the site, and to determine if any removal action (RA) is warranted. START activities during the project included, but were not limited to:

- Collecting and field screening surface soil samples at residential properties to evaluate whether conditions warranted removal action.
- Collecting and field screening surface soil samples at the former KCS&R facility to evaluate whether conditions warranted removal action.
- Completing Property Screening Forms for the properties sampled and screened for lead.
- Submitting soil samples for laboratory confirmation analysis for lead.
- Documenting RA activities.

The START Project Manager for this RA was Lauren Holt who was joined by Tommy Rebecchi for field activities. EPA On-scene Coordinator (OSC) for the project was Yvonne Smith.

2.0 SITE DESCRIPTION

The following sections describe the site's location, recount its operational history, and summarize previous investigations.

2.1 SITE LOCATION AND OPERATIONAL HISTORY

The former KCS&R facility is in the northeast industrial sector of Kansas City, Missouri at 2223 Guinotte Avenue, Kansas City, Missouri (Figure 1). The site is in Section 23, Township 10 North, Range 6 East, and is shown on the Kansas City, Missouri and North Kansas City, Missouri U.S. Geological Survey (USGS) 7.5-minute topographic series maps (USGS 1996, 1997).

The Kansas City Smelting and Refining Company began operations in 1880 in Argentine, Kansas. Operations focused on refining ores: zinc, pig lead, and gold and silver bullions from Mexico and Colorado. By the 1890s, the company had smelting and refining works in Kansas City, Missouri (see Figure 1); Leadville, Colorado; and El Paso, Texas. In 1899, the Consolidated Kansas City Smelting and Refining Company, along with some other smaller companies (including Omaha and Grant Smelting, Philadelphia Smelting and Refining, and National United Colorado), merged to form the American Smelting and Refining Company. Smelting and refining operations ceased at the Guinotte Avenue site around 1920 following construction of new smelters closer to the mines in Colorado and when it became cheaper to ship Mexican ore by water to east coast smelters (Tetra Tech 2015).

The site is owned by [redacted] and is occupied by two structures. The main building (former KCS&R facility) at 2223 Guinotte is approximately 9,000 square feet (ft^2) and is constructed of brick with a built-up roof. In early 2018, the building was renovated into a lodging facility with twenty-one 300 ft^2 units. The structure south of the former facility, on the rear portion of the property (410 N Park Avenue), houses offices for [redacted] concrete roofing tile manufacturing business. The building is approximately 11,000 ft^2 and constructed with cinderblock with a corrugated metal roof.

2.1.1 Geology

Soils in the area of investigation are moderately sloping and mostly covered (85 percent) by asphalt, concrete, buildings, or other impervious material. Soil is classified as Urban Land-Bottom Land Complex, that varies in composition because it has been extensively reshaped by cutting and filling. Areas associated with this soil complex are subject to localized flooding for short periods. The Urban Land-Bottom Land soils of Jackson County extend to 10 or more feet below ground surface (ft bgs) (USDA 1984).

The northern extents of Jackson County are in the Dissected Till Plains section of the Central Lowland physiographic province (Miller and Vandike 1997). Surficial soils along the Missouri River valley are underlaid by quaternary alluvial deposits of clay, sand, and gravel up to 150 feet thick. Alternating Pennsylvanian limestone and shale strata, indicative of marine transgression-regression sequences, lie beneath the alluvial deposits and gently dip to the northwest (Hasan, Moberly, and Caoile 1988). The uppermost layers of Pennsylvanian bedrock just south of the Missouri River and near the site belong to the Lower Bronson Subgroup of the Kansas City Group, and consist of the Bethany Falls, Hushpuckney Shale, and Middle Creek Limestone members (U.S. Geological Survey 2004).

2.1.2 Hydrogeology

The site is in the lowland areas of Kansas City approximately 0.35 mile south of the Missouri River and is underlain by unconsolidated alluvial deposits of clay, silt, sand, and gravel belonging to the Late Pleistocene and Holocene Quaternary System. Thicknesses of Missouri River alluvium range from 100 to 150 feet in its reaches in the Kansas City area (Kelly 1996). Depth to groundwater varies as it is influenced by river stage and recharge from the surrounding uplands but is typically expected between 15 and 30 feet below ground surface (bgs). The Missouri River valley aquifers provide a high capacity source of high-quality groundwater (Hasan, Moberly, and Caoile 1988). Kansas City Public Water Services provides municipal water services to the community from surface intakes along the Missouri River or from collector wells, under the influence of surface water, that are completed in the Missouri River alluvium. No municipal or registered domestic wells are within 1 mile of the site.

2.1.3 Hydrology

The site is in the Lower Missouri-Crooked watershed (EPA 2018). Based on a review of topographic maps, runoff from the site would follow the general topographic gradient northward toward the Missouri River, flowing west to east from its confluence with the Kansas River 2.5 miles to the west. Most runoff would likely be captured by stormwater inlets near the site.

2.2 PREVIOUS INVESTIGATIONS

In 2015, a Preliminary Assessment (PA) was completed by START for the site. At the time of PA screening activities, the main building was used as a cross-fit training facility. The rear building was used as offices for the property owner's roofing tile company. During the PA, Tetra Tech START screened surface soils and interior dust at the site for lead contamination. The site was divided into 11 areas: three cells, two drip zones, two gravel areas, two piles, and two road easements. A soil sample consisting of

seven to nine aliquots was collected in each area. Each sample was dried, passed through a number 10 (2 millimeter) sieve, and homogenized before undergoing x-ray fluorescence (XRF) screening for lead. All soil samples were submitted to the EPA Region 7 laboratory for analyses for arsenic, cadmium, chromium, lead, and zinc.

Field screening data showed seven of the 11 areas contained average XRF-lead concentrations exceeding the EPA action level for industrial soil of 800 milligrams per kilogram (mg/kg) or parts per million (ppm). Laboratory analytical results had detections of lead concentrations in nine soil samples ranging from 34.5 to 8,850 mg/kg. The EPA regional screening level (RSL) for lead in industrial soil (800 mg/kg) was exceeded in six of the nine laboratory samples. Analytical results showed that seven of the 11 soil samples contained arsenic at concentrations from 7.6 mg/kg to 38.1 mg/kg. The EPA RSL for arsenic in industrial soil is 3 mg/kg. Cadmium was detected in six soil samples at concentrations from 1.1 to 6.3 mg/kg, all well below the EPA RSL of 980 mg/kg. Chromium was detected in six samples, at levels from 2.3 to 18.7 mg/kg. No RSL has been established for total chromium. Zinc was detected in all samples at concentrations from 5.1 to 1,420 mg/kg, all well below the EPA RSL of 350,000 mg/kg.

START collected wipe samples of flooring at three locations inside the main building (the former cross-fit training facility). These locations represented common areas and areas where children tended to stay while their parents worked out. Wipe sample #1 was collected in the northeast portion of the building. Wipe sample #2 was collected in the workout area at the northwest corner of the building. Wipe sample #3 was collected in the southwest portion of the building inside the entryway from the loading dock along the south side of the building. The concentration of lead in each wipe sample was reported in micrograms per square foot ($\mu g/ft^2$) to represent concentration of lead per unit area (lead loading) at each sampling location. Analytical results from these samples were: Wipe sample #1 – 81.94 $\mu g/ft^2$, Wipe sample #2 – 14.03 $\mu g/ft^2$, and Wipe sample #3 – 150.50 $\mu g/ft^2$. The EPA action level for lead dust in flooring is 40 $\mu g/ft^2$.

3.0 REMOVAL ASSESSMENT ACTIVITIES

During the RA, between July 21, 2017, and December 18, 2018, START collected surface soil samples at 41 residential properties in the neighborhood northeast of the site and at the former KCS&R site to evaluate metals contamination in surface soil from former smelting activities (Figure 2, Appendix A). The RA included: (1) generating a scale drawing of each property, (2) dividing each property into distinct cells, (3) collecting a multi-aliquot surface soil sample in each cell, (4) screening the soil samples for lead by use of a Niton™ XRF spectrometer, and (5) submitting selected soil samples for laboratory analysis. A description of assessment activities follows.

3.1 SURFACE SOIL SAMPLING FOR XRF SCREENING

Surface soil screening proceeded in accordance with guidelines established in the *Superfund Lead-Contaminated Residential Sites Handbook* (EPA 2003). The Tetra Tech START field crew, after receiving signed access agreements from each property owner, generated a Property Screening Form and identified cells that would be sampled at each property. While the maximum size of a cell was 100 by 100 feet, actual sizes of cells were determined in the field based on site features. Each cell extended from the drip zone around the structure 100 feet in all directions or to the property line, whichever distance was shorter. Additional areas or cells that were screened included drip zones, vegetable gardens, and children's play areas that were at least 25 by 25 feet. A composite sample consisting of nine aliquots was collected from each cell. Each sample was collected 0 to 2 inches bgs by use of a trowel, and placed in a labeled, sealed plastic bag.

All samples were transported to the START Field Office (FO), along with the Property Screening Forms. At the FO, each sample was transferred to a clean pan and allowed to completely air dry. Once dried, the samples were homogenized, passed through a number 10 (2-millimeter) sieve, and then screened for lead by use of an XRF analyzer. Three separate XRF readings were taken from each sample and the average of these three readings was calculated and recorded on the property screening form (Appendix B). Each screening form was then put into a geo-referenced property map (Appendix C).

3.2 SURFACE SOIL SAMPLING FOR XRF CONFIRMATION AND RCRA METALS

In accordance with the Quality Assurance Project Plan (QAPP), approximately 10 percent of the screened samples were submitted to the EPA Region 7 laboratory for analysis of Resource Conservation and Recovery Act (RCRA) metals arsenic, barium, cadmium, chromium, lead, selenium, and silver and to

confirm XRF readings. Samples selected for submittal to the laboratory were collected 0 to 2 inches bgs by use of a trowel, and placed in a labeled, sealed plastic bag.

3.3 SURFACE SOIL SAMPLING FOR BIOAVAILABILTY STUDY

Five split samples from the July 2017 sampling were submitted to the University of Colorado in Boulder, Colorado, (UC), under subcontract to Tetra Tech, to determine the bioavailability of lead in the samples. These analyses were done to determine the percentage of lead in site soils that would theoretically become bioavailable over time.

3.4 SURFACE SOIL SAMPLING FOR DISPOSAL DETERMINATION

To determine proper disposal of potentially excavated material, soil samples (multi-aliquot composites) were collected at the former KCS&R facility where, based on previous screening activities, there were known to be elevated concentrations of lead. These samples were submitted to the EPA Region 7 laboratory for laboratory for toxicity characteristic leaching procedure (TCLP) analyses of lead.

4.0 ANALYTICAL DATA SUMMARY

This section summarizes analytical data from surface soil samples collected during the RA at the KCS&R on Guinotte site. Samples were submitted to the EPA Region 7 laboratory in Kansas City, Kansas for laboratory confirmation of XRF screening results, RCRA total metals, and TCLP analyses for lead. In vitro bioassay analyses were done by the UC Boulder laboratory.

4.1 SOIL SAMPLES FOR XRF SCREENING

Between July 2017 and September 2018 START did RA activities at 41 residential properties. Field screening of samples identified one residential property with at least one cell (excluding the drip zone) containing lead at a concentration exceeding 800 mg/kg and 19 residential properties with at least one cell (excluding the drip zone) with a lead concentration more than 400 mg/kg but less than 800 mg/kg. A summary of the surface soil screening results for assessed residential properties is in Appendix D.

In December 2018, START team members conducted RA activities at the former KCS&R site at 2223 Guinotte Avenue and 410 N Park Avenue. Surface soil samples were collected from nine distinct cells and screened via XRF. Results indicated that five surface soil samples (excluding the drip zones) at the site contained lead at concentrations in exceedance of the EPA action level for industrial soil of 800 mg/kg (see Appendix E).

4.2 SURFACE SOIL SAMPLES FOR XRF CONFIRMATION AND RCRA METALS

Determination of acceptable XRF screening data followed guidelines in Section 9.7 of EPA Method 6200—Field Portable X-Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment (EPA 2007). Splits of approximately 10 percent (17) of residential surface soil samples and all (9) surface soil samples collected from the former KCS&R site were submitted to the EPA Region 7 laboratory in Kansas City, Kansas, for confirmation analysis for lead. XRF data are generally considered valid if a comparison between the XRF values and corresponding laboratory results yields a regression coefficient (r^2) of at least 0.7. The r^2 value for data acquired during this project was 0.972. So, the remaining XRF readings are considered valid screening level data. Correlation data for the 26 soil samples analyzed by both XRF and the EPA Region 7 laboratory are in Table 1, Appendix E.

Analytical results for RCRA metals showed arsenic in exceedance of the RSL for residential soil of 0.68 mg/kg in all 17 residential surface soil samples submitted for laboratory analysis. All surface soil samples collected at the former KCS&R property contained concentrations of arsenic above the RSL for

industrial soil of 3.0 mg/kg. Cadmium concentrations above the residential soil RSL of 7.1 mg/kg were detected in eight residential samples. A summary of analytical data for RCRA metals is in Table 2 (Appendix E).

4.3 SURFACE SOIL SAMPLES FOR BIOAVAILABILTY STUDY

Five residential surface soil samples were submitted to the UC laboratory in Boulder for comparative analysis of bioavailability of lead. These analyses were done to determine the percentage of lead in site soils that would theoretically become bioavailable over time. Table 3 in Appendix E summarizes the results of the laboratory analyses, along with XRF readings for lead in surface soils where those samples were collected. UC laboratory results ranged from 63 to 70 percent indicating that a significant portion of lead in the soil would be bioavailable.

4.4 SURFACE SOIL SAMPLES FOR DISPOSAL DETERMINATION

TCLP analyses did not identify lead above the regulatory limit of 5 milligrams per liter (mg/L) in any sample (excluding drip zones). So, none of the contaminated soil would meet the criterion for classification as hazardous waste by the characteristic of toxicity. Chain-of-custody records for the laboratory samples are in Appendix F and results for TCLP analyses of lead are in Appendix G with other EPA laboratory data.

5.0 SUMMARY

At the KCS&R on Guinotte site in Kansas City, Missouri, an RA was done to assess residential properties for lead contamination in soils associated with former smelting operations. Between July 31, 2017, and December 18, 2018, sampling was done at the former KCS&R site and 41 residential properties. Written access agreements were obtained for the properties to be sampled. The properties were then sketched and divided into cells prior to collection of surface soil samples. The samples were processed and screened for lead using an XRF analyzer. Splits of about 10 percent of the residential samples and all site samples were submitted for laboratory confirmation analysis. Screening results were recorded on Property Screening Forms.

During the RA, 19 residential properties were identified with at least one cell containing surface soil with a lead concentration greater than 400 mg/kg but less than 800 mg/kg, and 1 residential property with at least one cell containing lead at a concentration exceeding 800 mg/kg. Five samples collected from the site contained lead at concentrations in exceedance of the EPA action level of 800 mg/kg for lead in industrial soils.

The RCRA metal arsenic was detected above the residential soil RSL of 0.68 mg/kg in all 17 residential surface soil samples, and above the industrial soil RSL of 3.0 mg/kg in all samples collected from the former KCS&R Property. Cadmium concentrations above the residential soil RSL of 7.1 mg/kg were identified in eight of the residential surface soil samples submitted for analysis.

To determine the percentage of lead in site soils that would theoretically become bioavailable over time, five surface soil samples were submitted to the UC laboratory in Boulder, Colorado for comparative analysis of bioavailability of lead. Laboratory results ranged from 63 to 70 percent indicating that a significant portion of lead in the soil would be bioavailable.

No surface soil samples (excluding drip zones) collected from the former KCS&R property analyzed for TCLP exceeded the regulatory limit for lead of 5 mg/L.

5.1 REMOVAL CONSIDERATIONS

One residential property was identified with a cell containing lead at a concentration greater than 800 mg/kg, and 19 properties were identified with at least one cell containing lead at a concentration exceeding the EPA action level of 400 mg/kg for lead in residential soil. Concentrations of lead in surface soil at five of the nine surface soil samples collected at the former KCS&R site exceeded the EPA action level of 800 mg/kg for lead in industrial soil. Concentrations of lead in TCLP analyses were not

identified in any samples (excluding drip zones) above the regulatory limit of 5 mg/L. START anticipates that these properties may be addressed by the EPA Remedial Program.

5.2 PRE-REMEDIAL CONSIDERATIONS

A PA was completed for the site under the START 4 contract in 2015 under Task Order 0104.002. Field data accumulated during this RA will help determine whether further pre-remedial investigation is warranted.

6.0 REFERENCES

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APPENDIX A

FIGURES

Source: USGS Kansas City, MO 7.5 Minute Topo Quad, 1996;
USGS North Kansas City, MO 7.5 Minute Topo Quad, 1997

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Figure 1
Site Location Map

TETRA TECH

Date 2/6/2019 Drawn By Nick Wiederholt Project No X9025.17.0179.000

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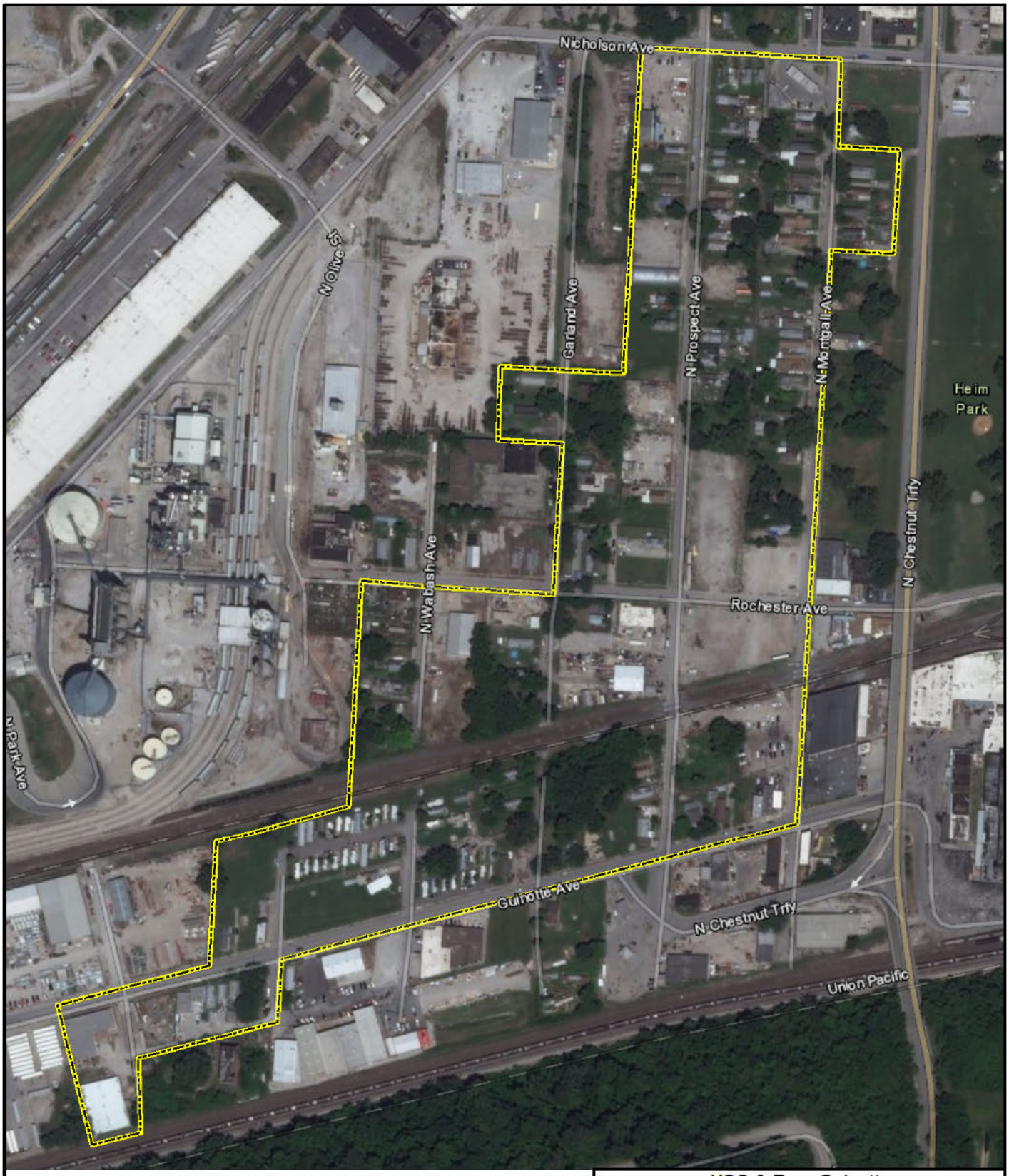

Legend

Approximate area of investigation

N

0 165 330

Feet

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Figure 2
Approximate Area of Investigation

TETRA TECH

Date 2/6/2019 Drawn By Nick Wiederholt Project No X9025.17.0179.000

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APPENDIX B

PROPERTY SCREENING FORMS

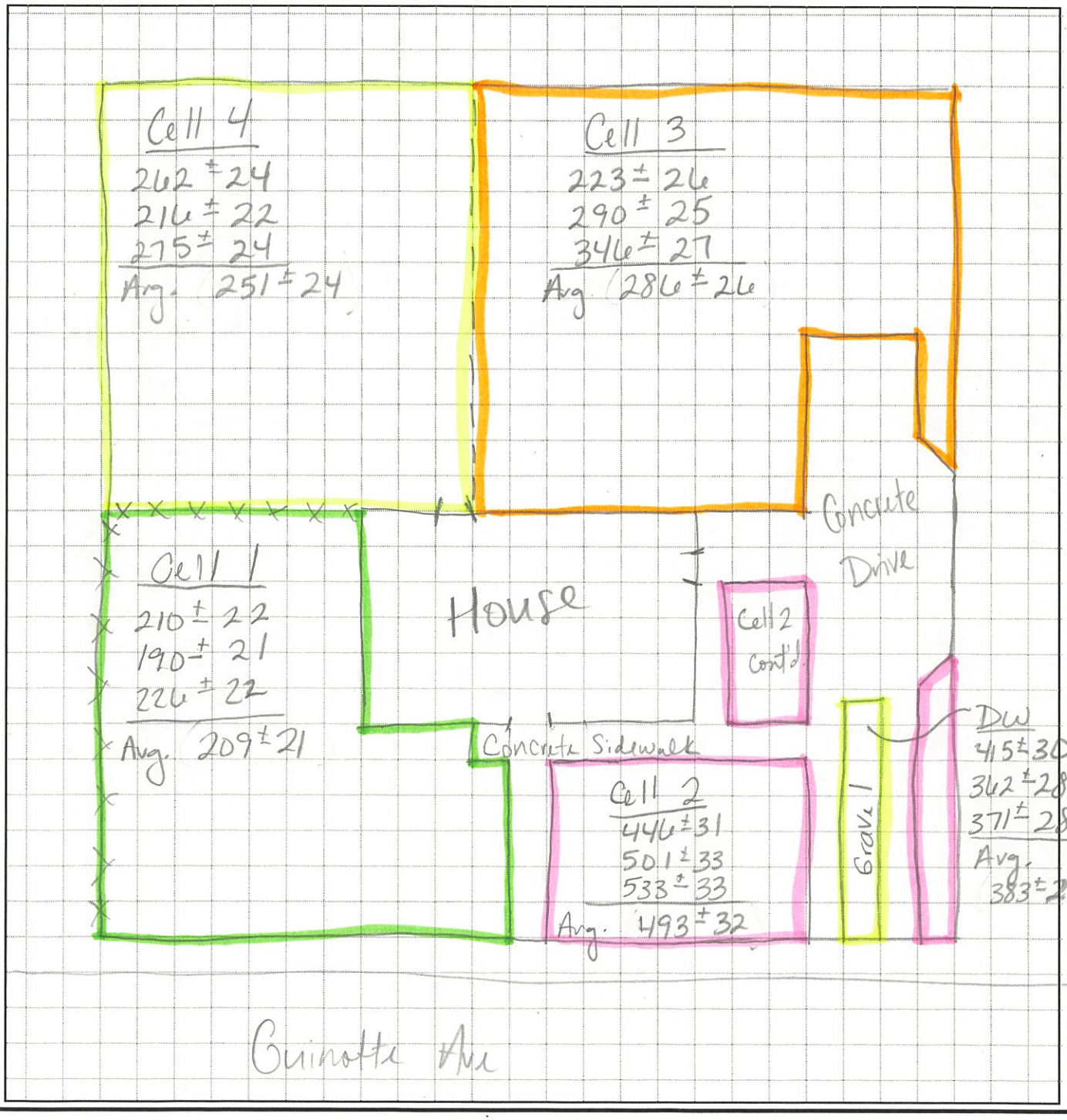
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 001 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	209	Cell 5:		DW 2:		Gravel Area 1:		Pile:			
Cell 2:	493	Cell 6:		DZ:		Gravel Area 2:		Alley Easement:			
Cell 3:	286	Cell 7:		Garden 1:		Landscaping:		Road Easement:			
Cell 4:	251	DW 1:	383	Garden 2:		Play Area:					



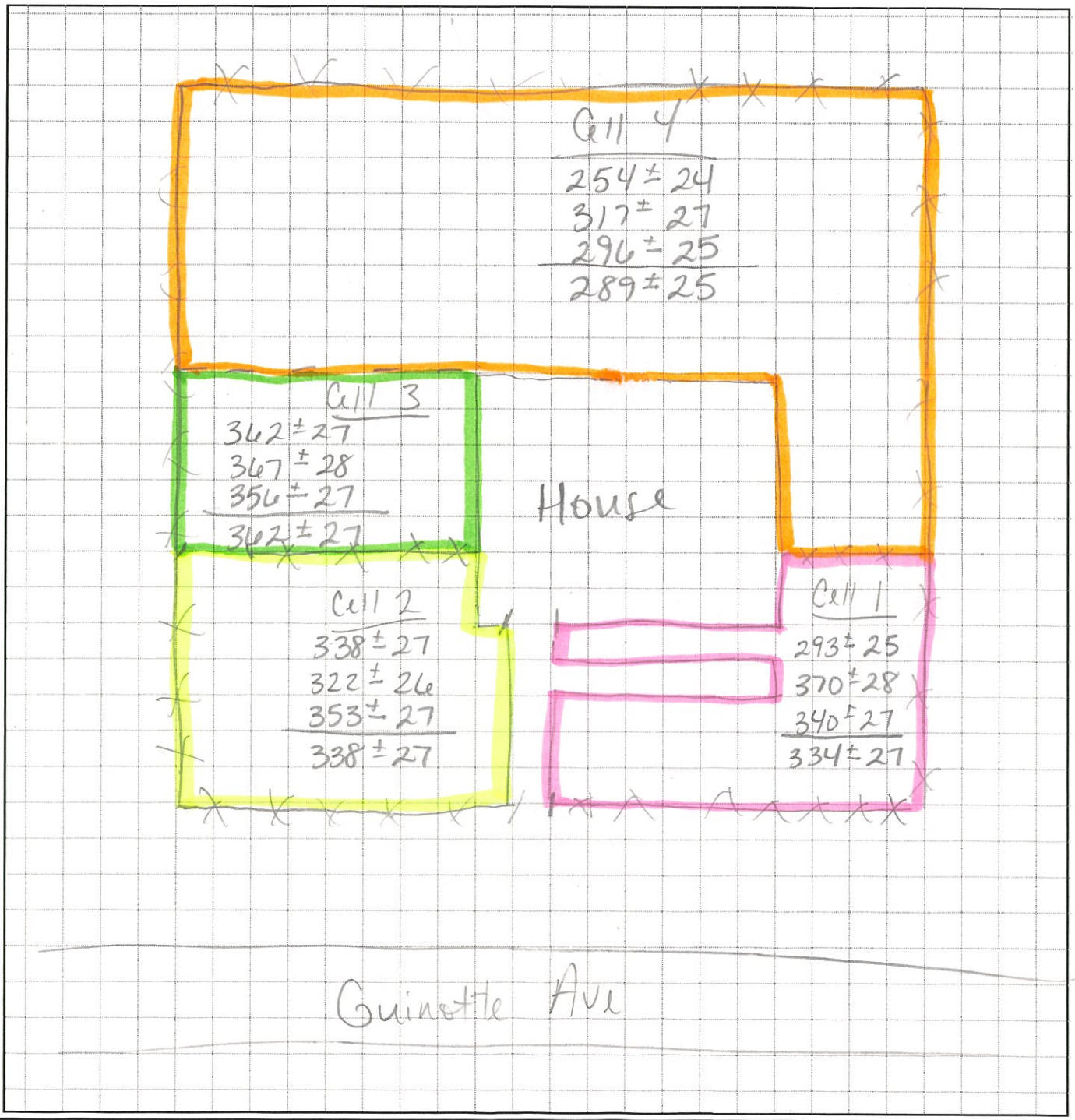
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 002 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1: 334	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2: 338	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3: 362	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4: 289	DW 1:	Garden 2:	Play Area:		



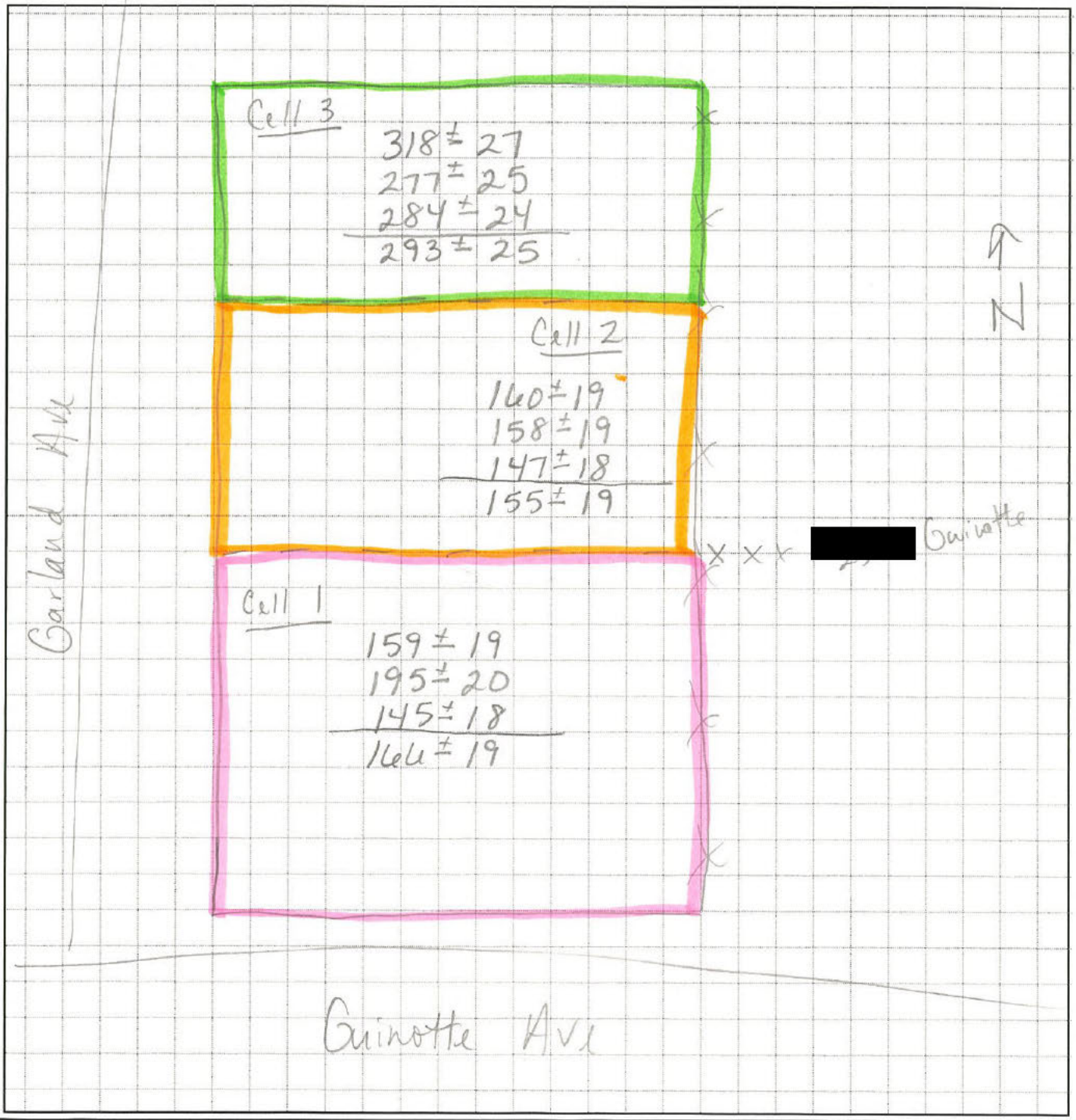
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 003 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1: 164	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2: 155	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3: 293	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4:	DW 1:	Garden 2:	Play Area:		



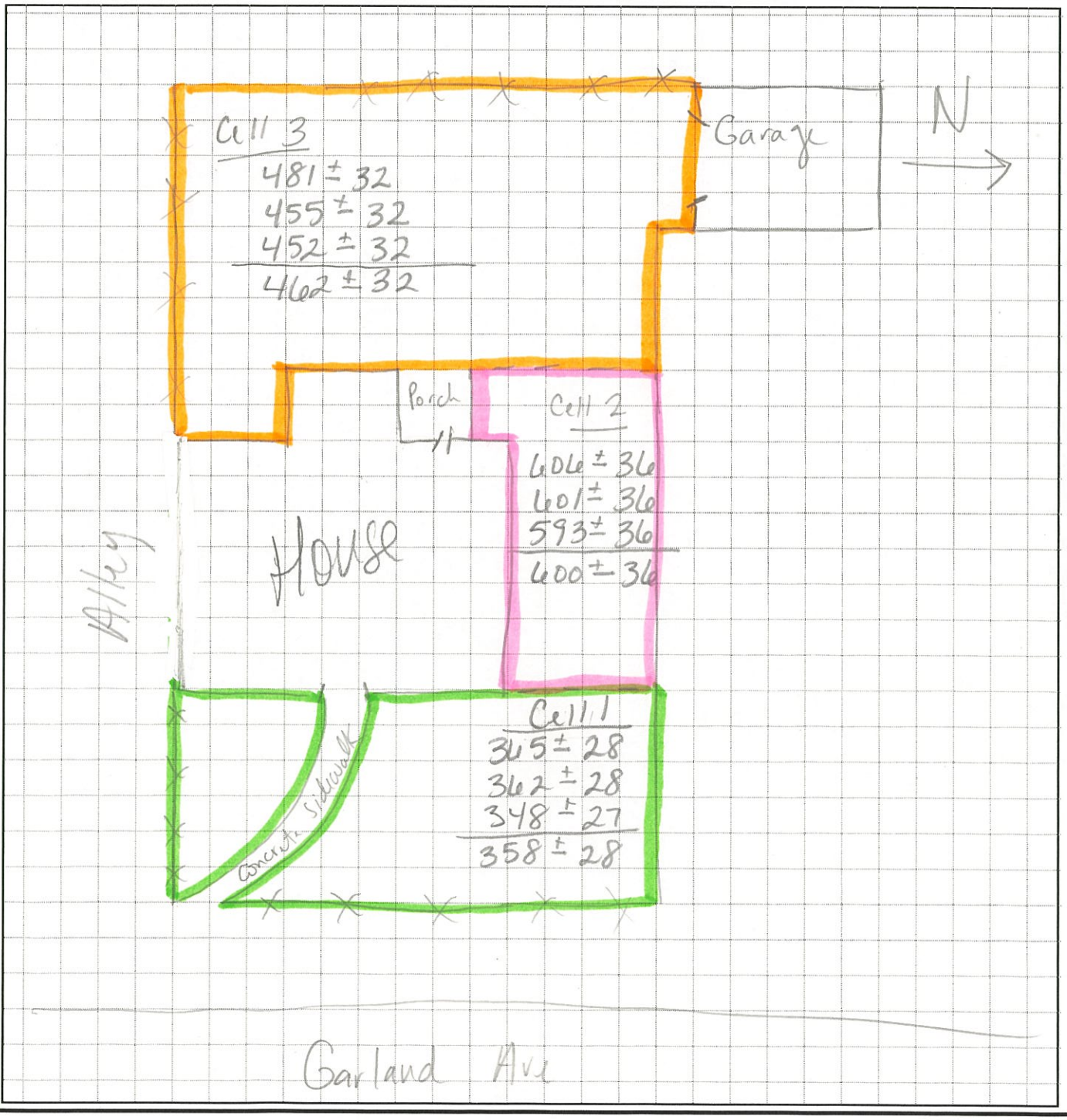
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 004 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	358	Cell 5:		DW 2:		Gravel Area 1:		Pile:			
Cell 2:	600	Cell 6:		DZ:		Gravel Area 2:		Alley Easement:			
Cell 3:	462	Cell 7:		Garden 1:		Landscaping:		Road Easement:			
Cell 4:		DW 1:		Garden 2:		Play Area:					



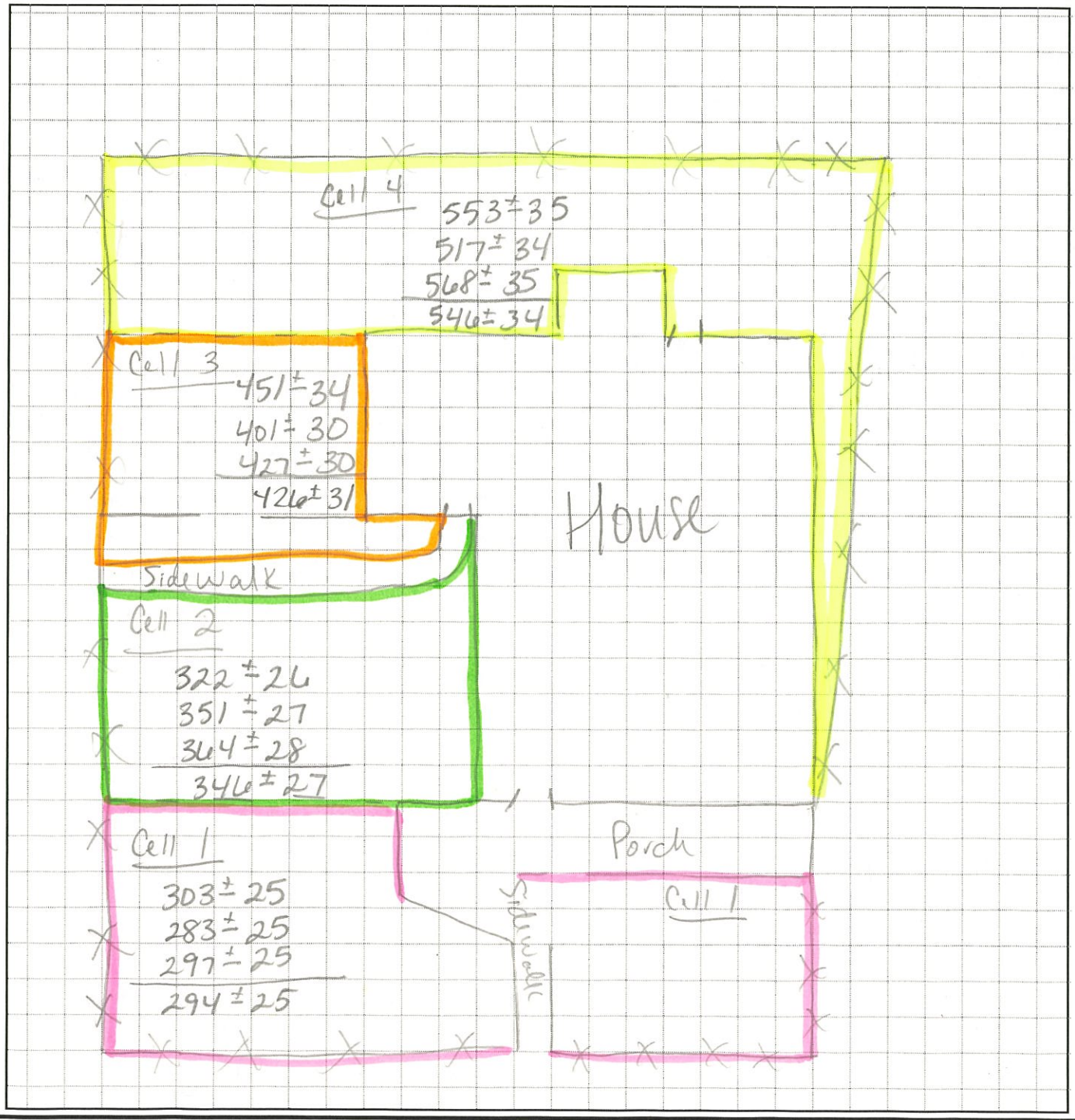
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 005 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	294	Cell 5:		DW 2:		Gravel Area 1:		Pile:	
Cell 2:	346	Cell 6:		DZ:		Gravel Area 2:		Alley Easement:	
Cell 3:	426	Cell 7:		Garden 1:		Landscaping:		Road Easement:	
Cell 4:	546	DW 1:		Garden 2:		Play Area:			



Carla

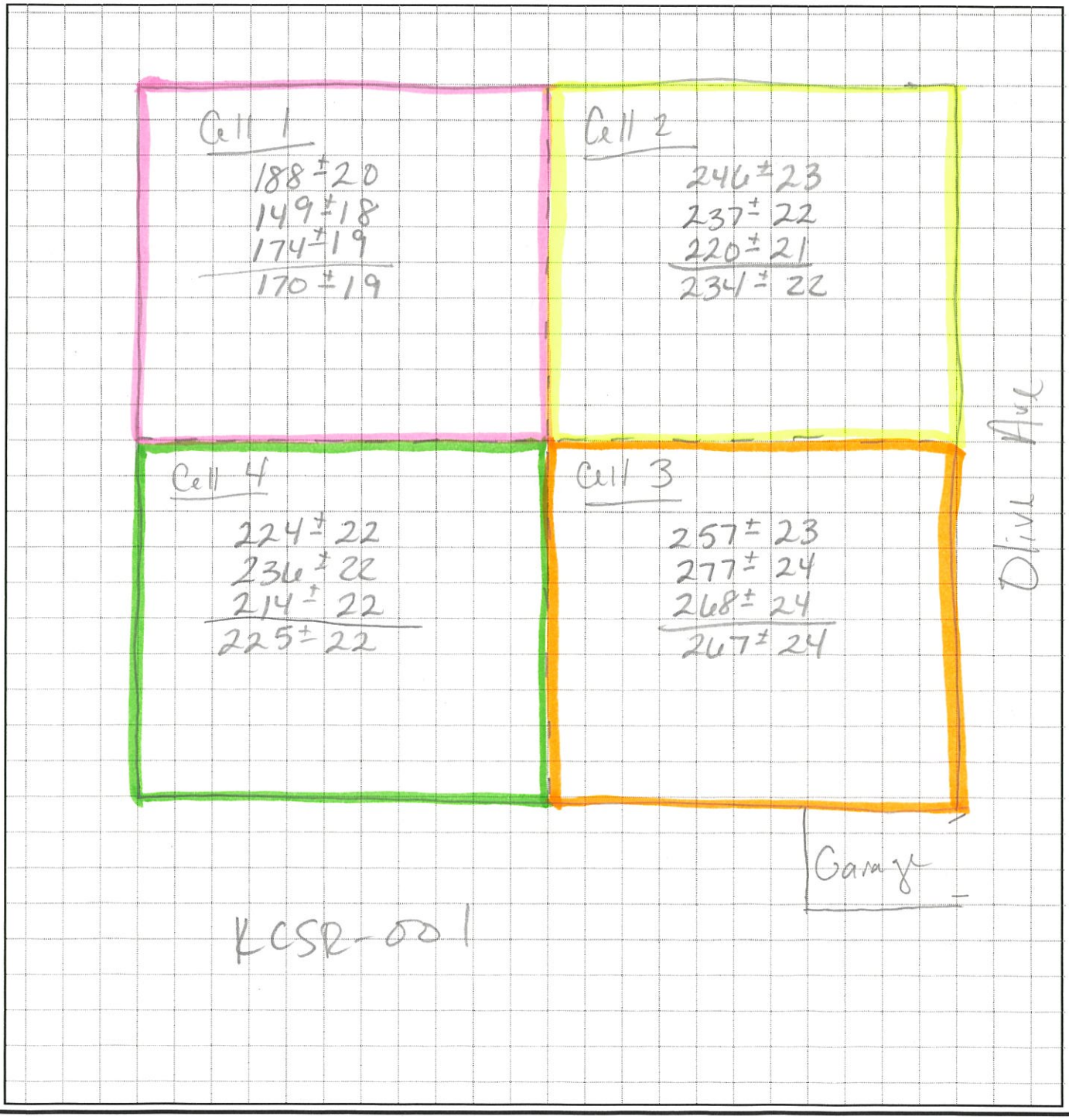
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 006 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1: 170	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2: 234	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3: 267	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4: 225	DW 1:	Garden 2:	Play Area:		



Carla

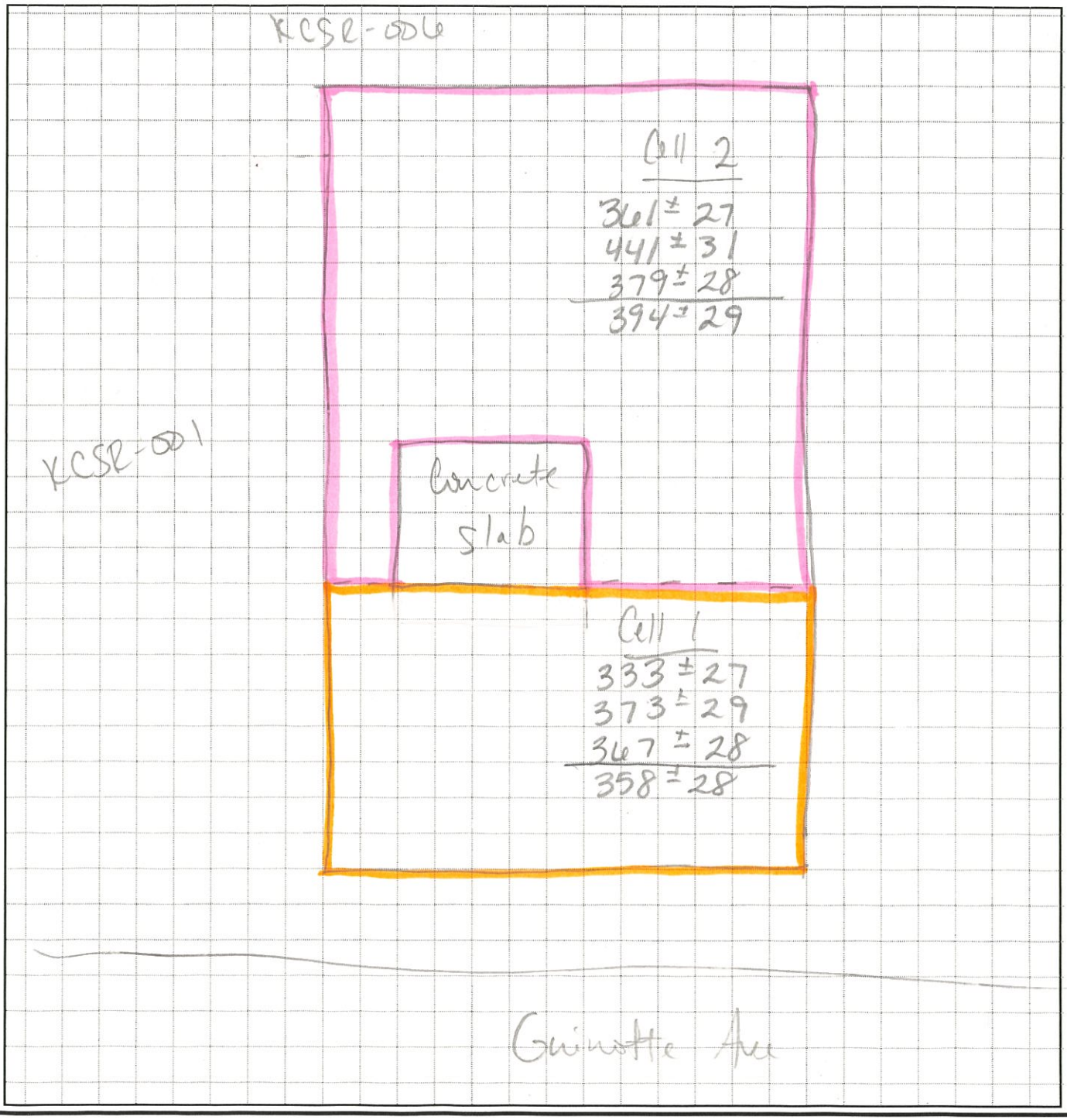
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 007 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1: 358	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2: 394	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3:	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4:	DW 1:	Garden 2:	Play Area:		



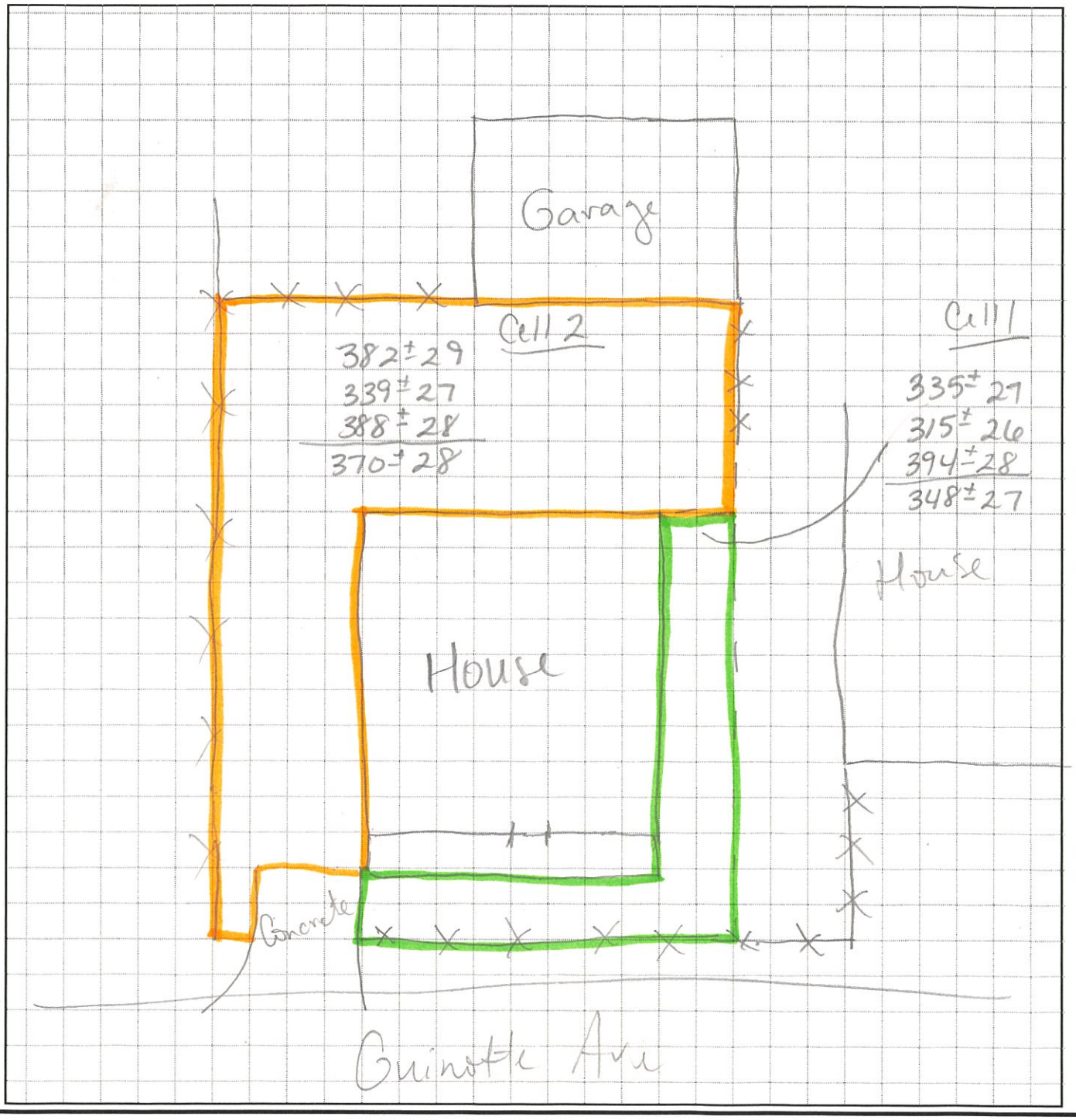
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 008 Date of Access: 7/31/17 Date of Screening: 8/1/17

Screening Results: XRF I.D.: 1542 Date: 8/5/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	348	Cell 5:		DW 2:		Gravel Area 1:		Pile:			
Cell 2:	370	Cell 6:		DZ:		Gravel Area 2:		Alley Easement:			
Cell 3:		Cell 7:		Garden 1:		Landscaping:		Road Easement:			
Cell 4:		DW 1:		Garden 2:		Play Area:					



Carla

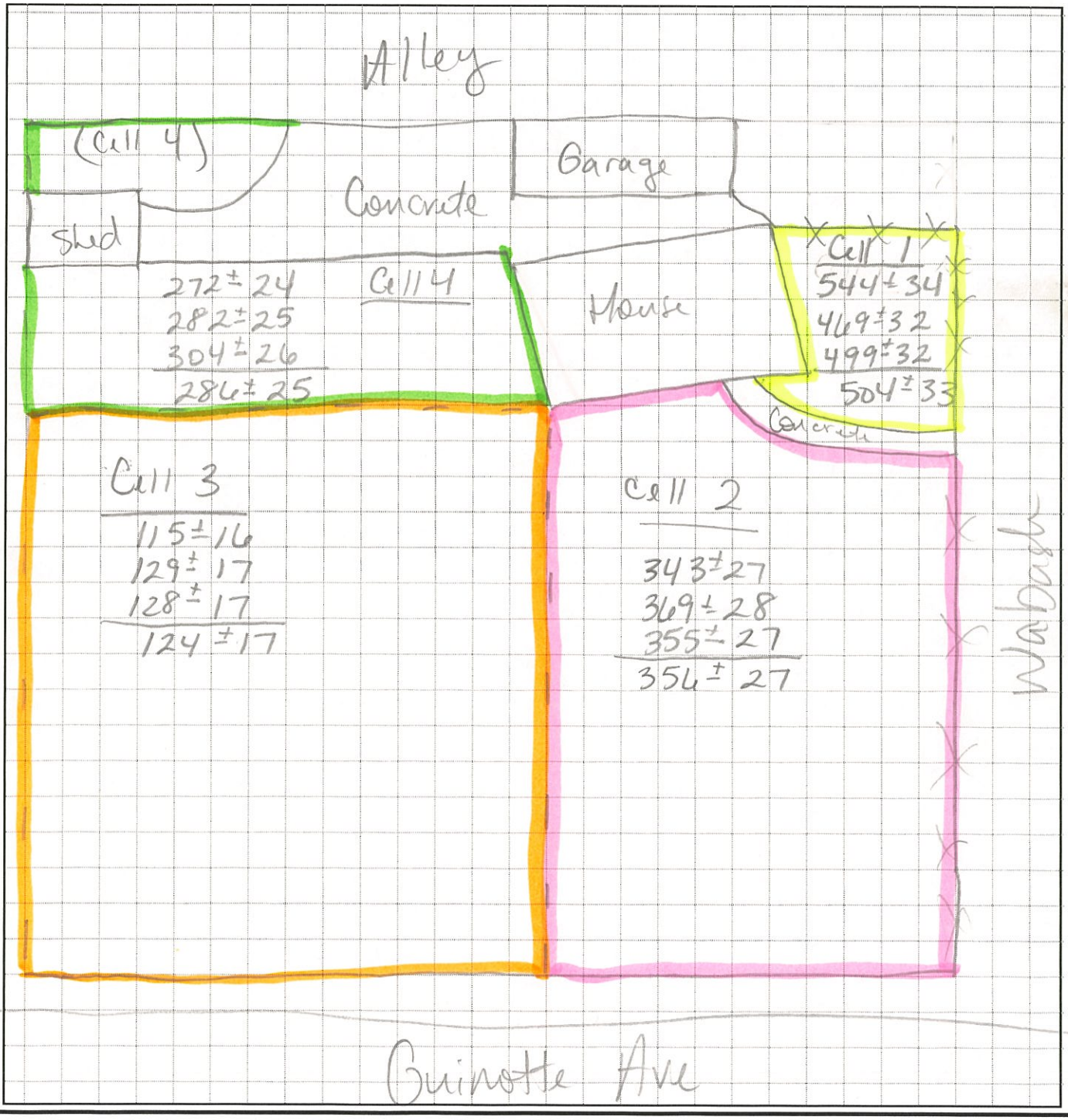
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 009 Date of Access: 7/31/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	504	Cell 5:		DW 2:		Gravel Area 1:		Pile:	
Cell 2:	356	Cell 6:		DZ:		Gravel Area 2:		Alley Easement:	
Cell 3:	124	Cell 7:		Garden 1:		Landscaping:		Road Easement:	
Cell 4:	286	DW 1:		Garden 2:		Play Area:			



Carla

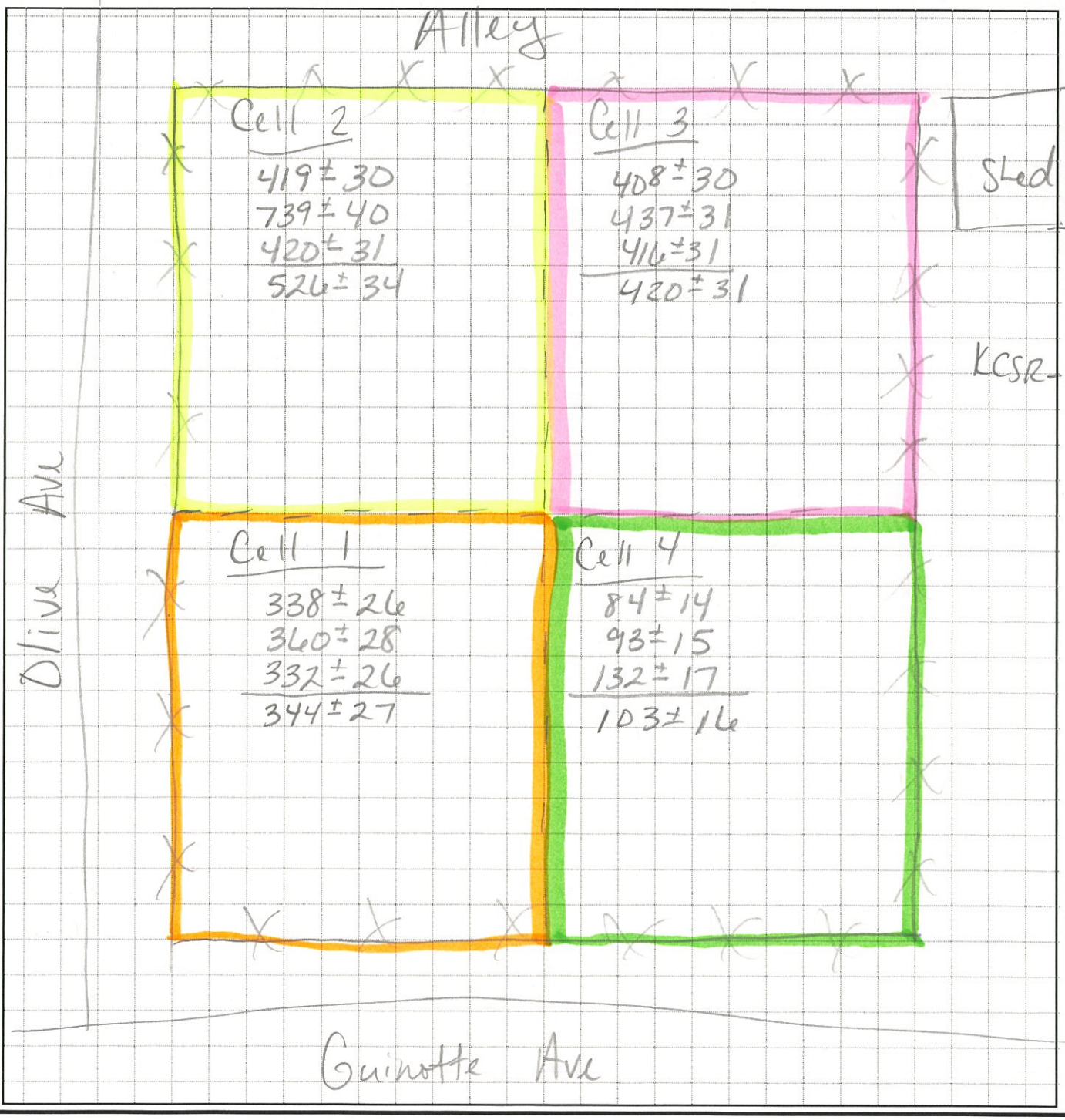
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 010 Date of Access: 7/31/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CTE

Average XRF Pb Screening Results (ppm)

Cell 1:	344	Cell 5:		DW 2:		Gravel Area 1:		Pile:			
Cell 2:	526	Cell 6:		DZ:		Gravel Area 2:		Alley Easement:			
Cell 3:	420	Cell 7:		Garden 1:		Landscaping:		Road Easement:			
Cell 4:	103	DW 1:		Garden 2:		Play Area:					



Carla

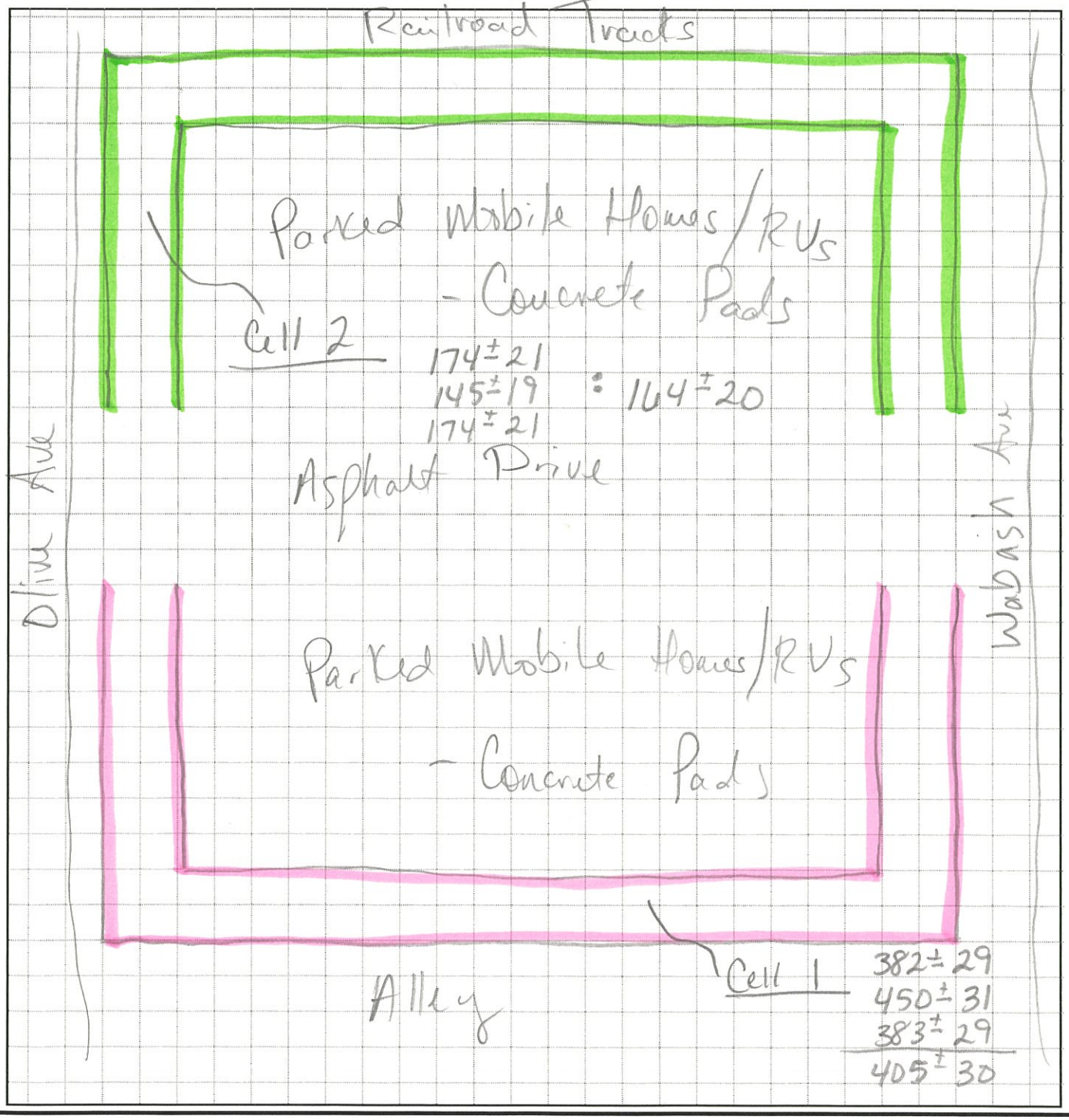
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 011 Date of Access: 7/31/17 Date of Screening: _____

Screening Results: XRF I.D.: _____ Date: _____ Operator: _____

Average XRF Pb Screening Results (ppm)

Cell 1: 405	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 164	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



Carla

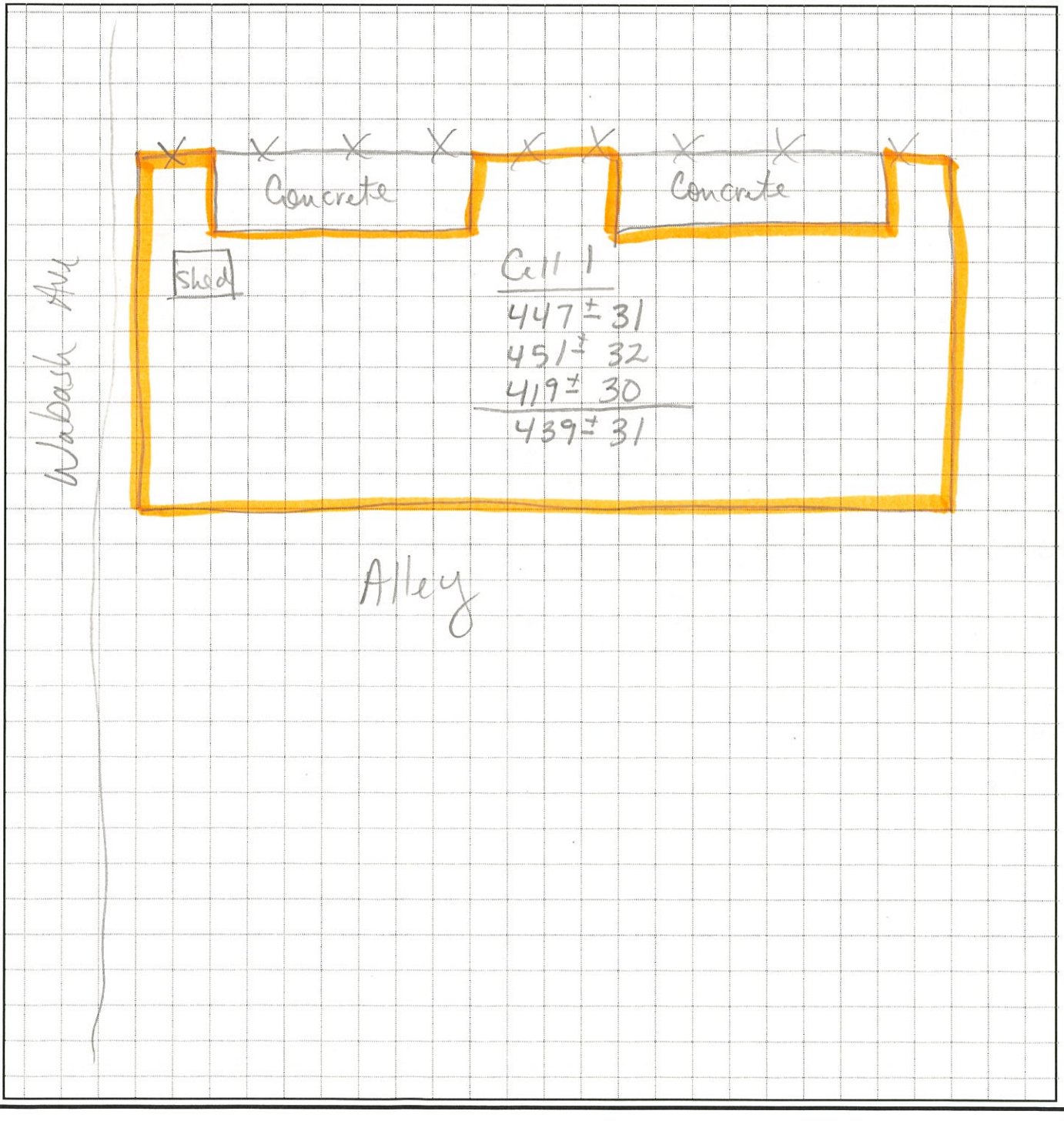
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 012 Date of Access: 7/31/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	439	Cell 5:		DW 2:		Gravel Area 1:		Pile:			
Cell 2:		Cell 6:		DZ:		Gravel Area 2:		Alley Easement:			
Cell 3:		Cell 7:		Garden 1:		Landscaping:		Road Easement:			
Cell 4:		DW 1:		Garden 2:		Play Area:					



Carla

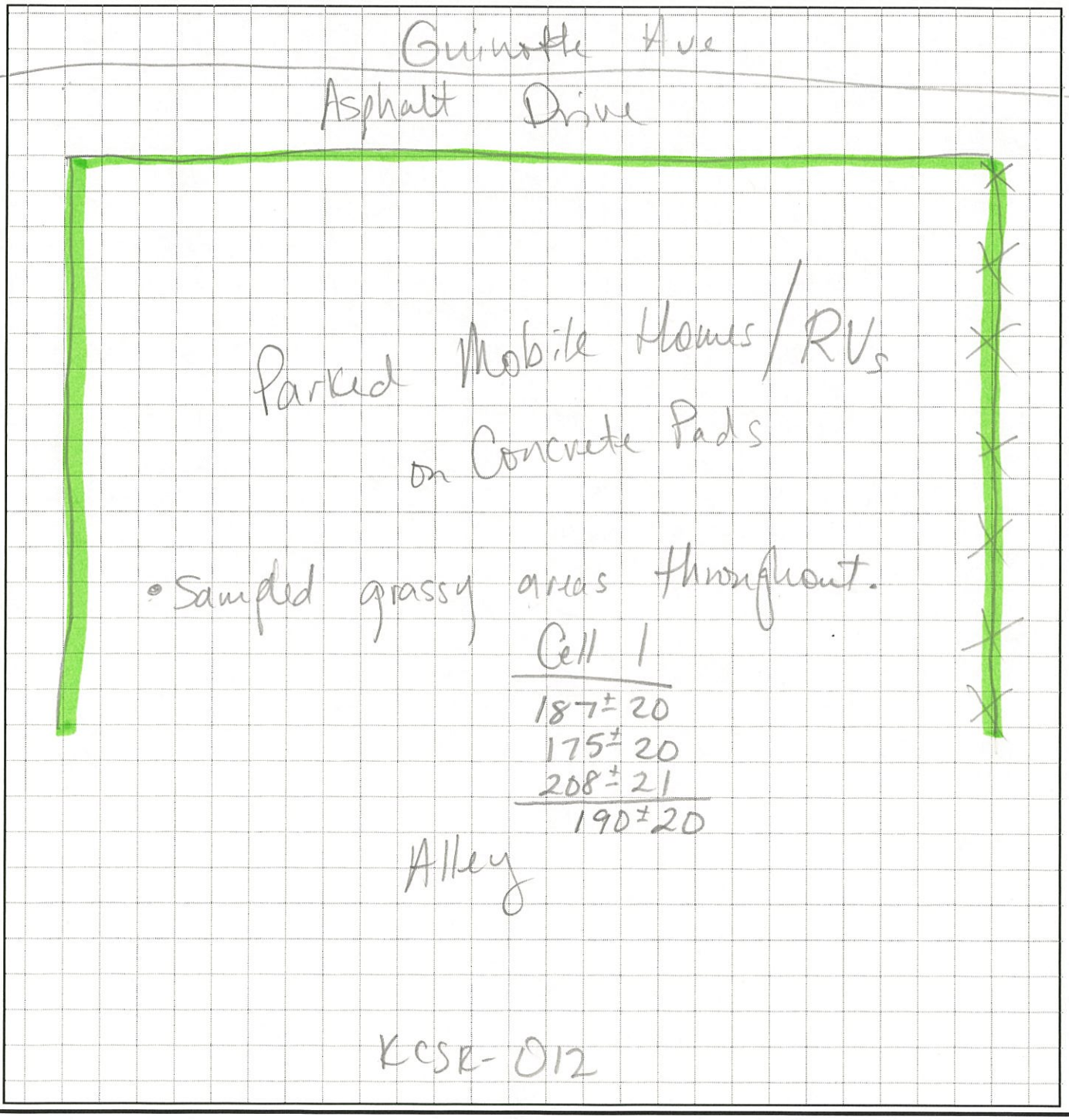
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 013 Date of Access: 7/31/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1:	190	Cell 5:		DW 2:		Gravel Area 1:		Pile:	
Cell 2:		Cell 6:		DZ:		Gravel Area 2:		Alley Easement:	
Cell 3:		Cell 7:		Garden 1:		Landscaping:		Road Easement:	
Cell 4:		DW 1:		Garden 2:		Play Area:			



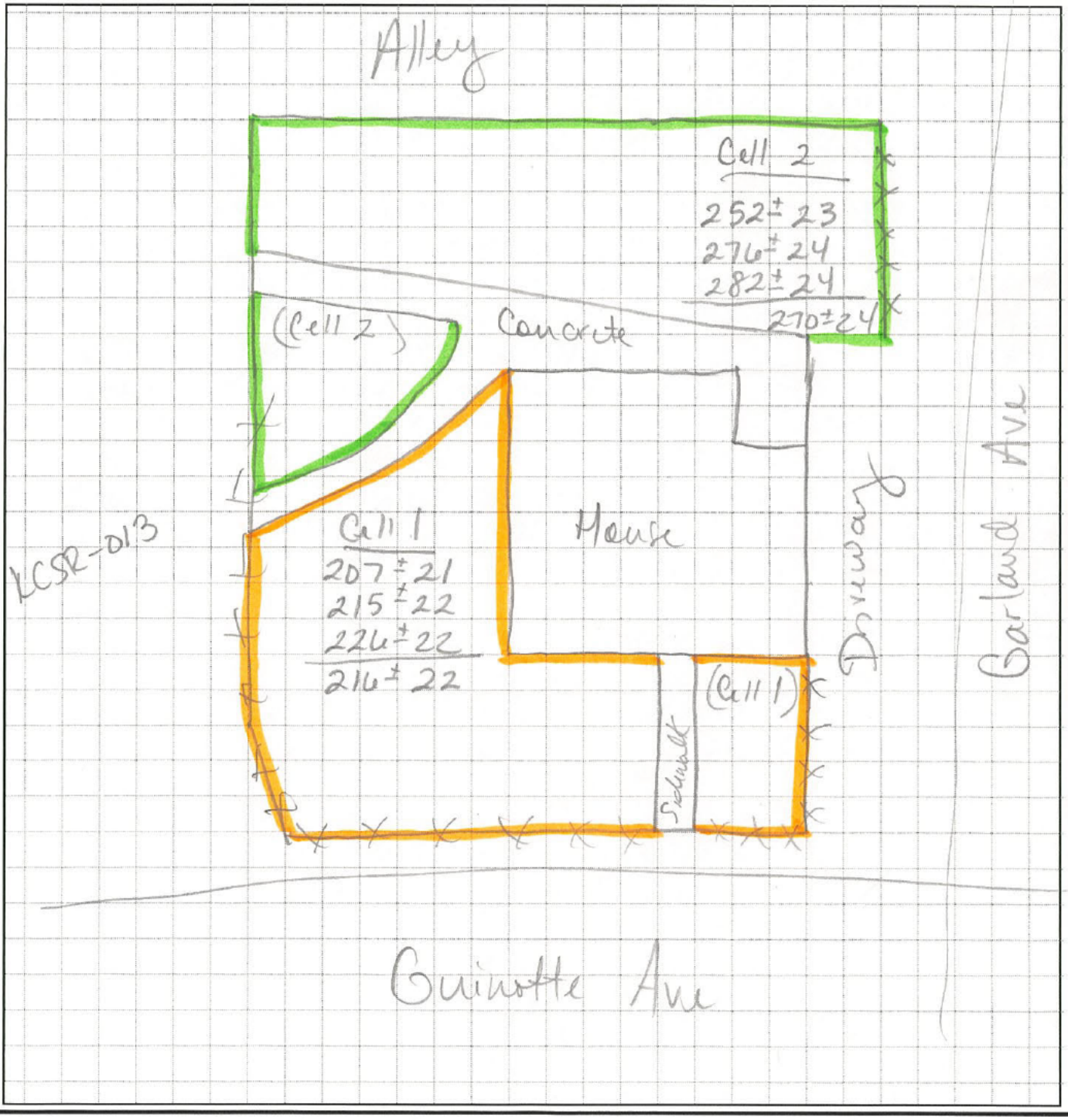
[redacted]KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 014 Date of Access: 7/31/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1: 216	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2: 270	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3:	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4:	DW 1:	Garden 2:	Play Area:		



Nicholson Park Background-

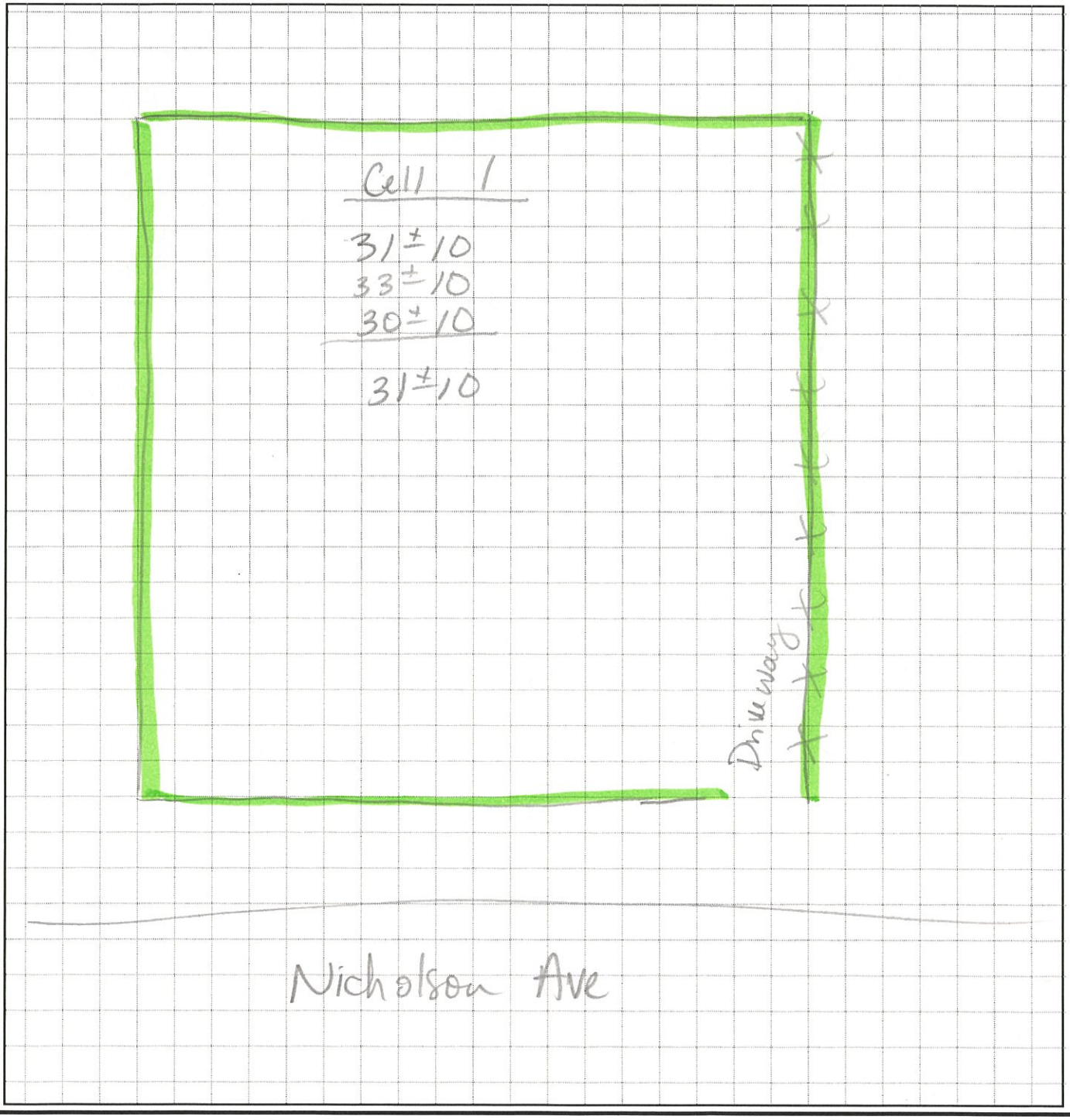
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 015 Date of Access: 8/1/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CtF

Average XRF Pb Screening Results (ppm)

Cell 1: 31	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2:	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3:	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4:	DW 1:	Garden 2:	Play Area:		



Berkley Park
-Background

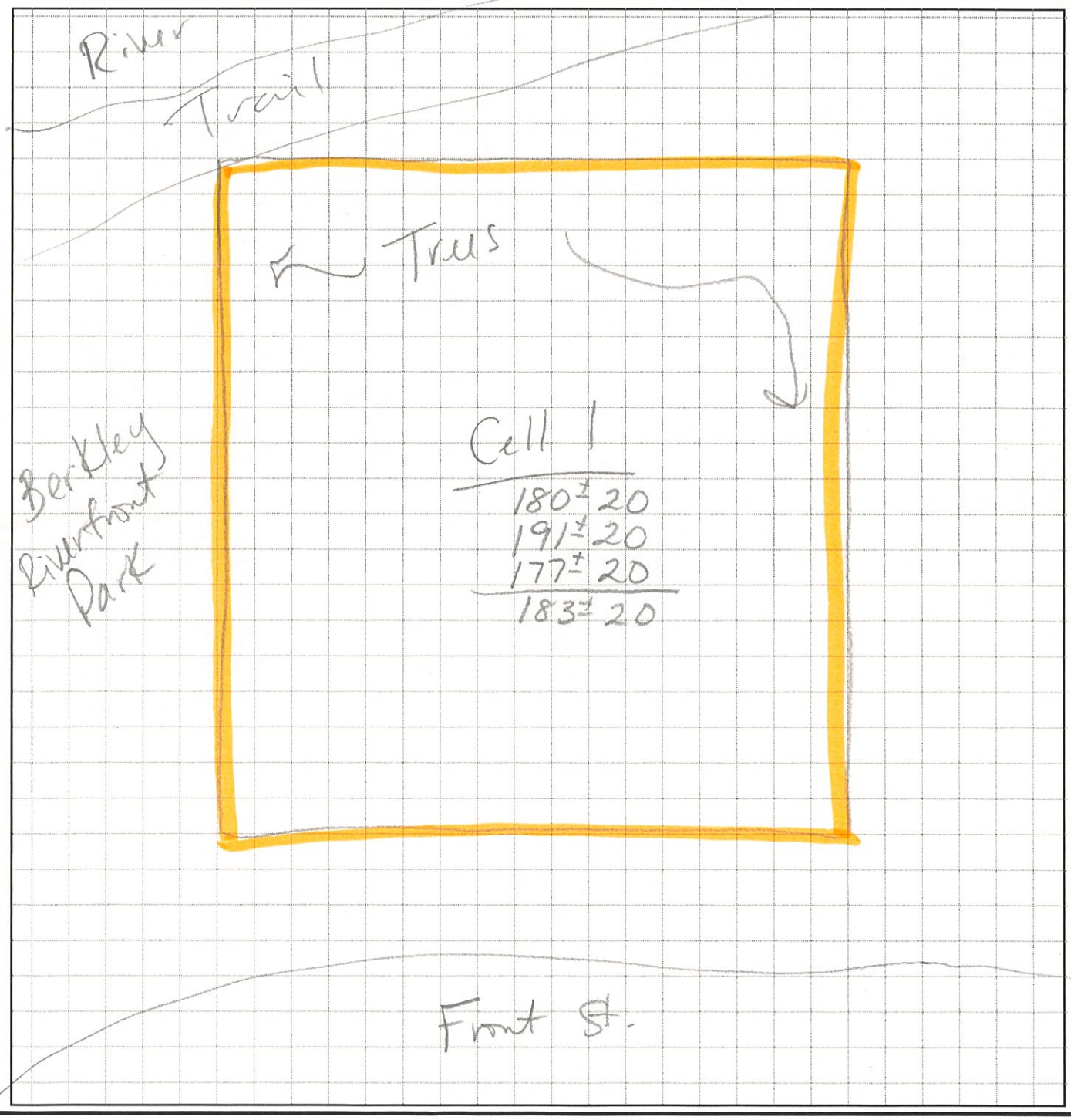
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 016 Date of Access: 8/1/17 Date of Screening: 8/2/17

Screening Results: XRF I.D.: 1542 Date: 8/15/17 Operator: CAE

Average XRF Pb Screening Results (ppm)

Cell 1: 183	Cell 5:	DW 2:	Gravel Area 1:	Pile:	
Cell 2:	Cell 6:	DZ:	Gravel Area 2:	Alley Easement:	
Cell 3:	Cell 7:	Garden 1:	Landscaping:	Road Easement:	
Cell 4:	DW 1:	Garden 2:	Play Area:		



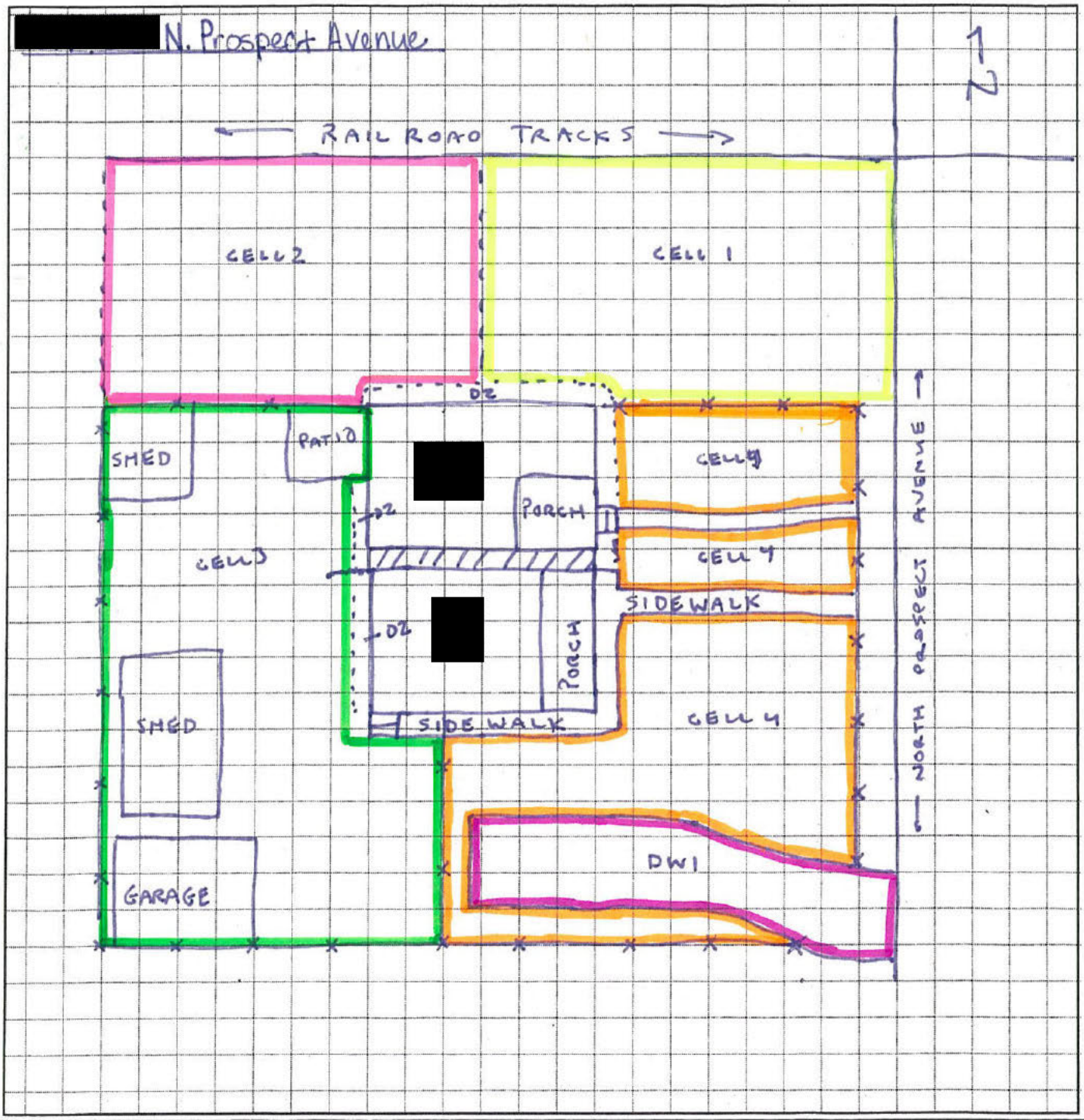
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 017 Date of Access: 9-6-2018 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 230.75	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 275.11	Cell 6: _____	• DZ: 367.78	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 553.65	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
• Cell 4: 214.32	• DW 1: 129.8	Garden 2: _____	Play Area: _____		



[redacted] N Prospect

KCS and R on Guinotte, Residential Screening Form

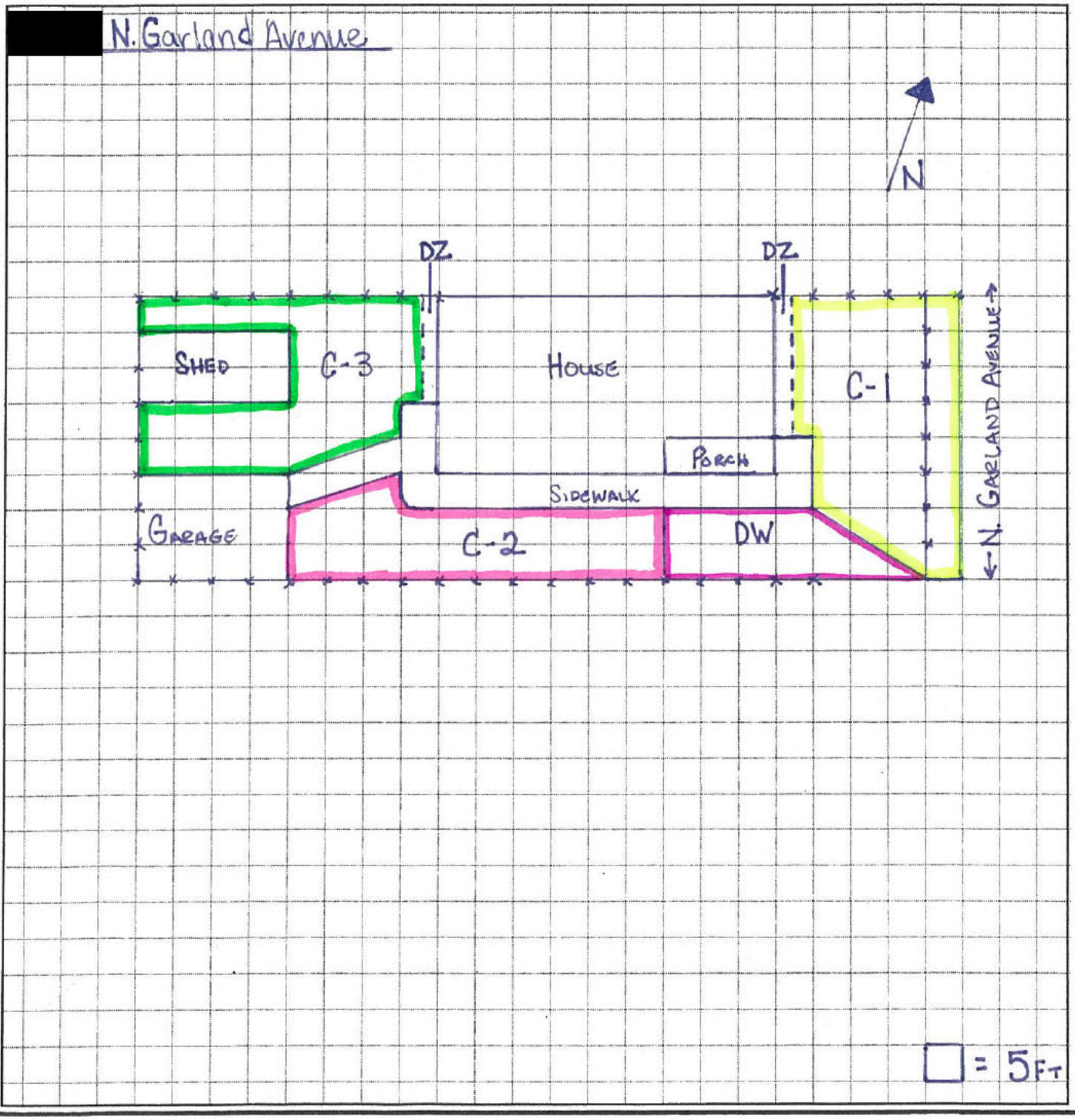
EPA Site #: **KCSR-** 018 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 223.28	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 237.74	Cell 6: _____	•DZ: 564.2	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 269.87	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	•DW 1: 270.89	Garden 2: _____	Play Area: _____	_____	

[redacted] N. Garland Avenue



KCS and R on Guinotte, Residential Screening Form

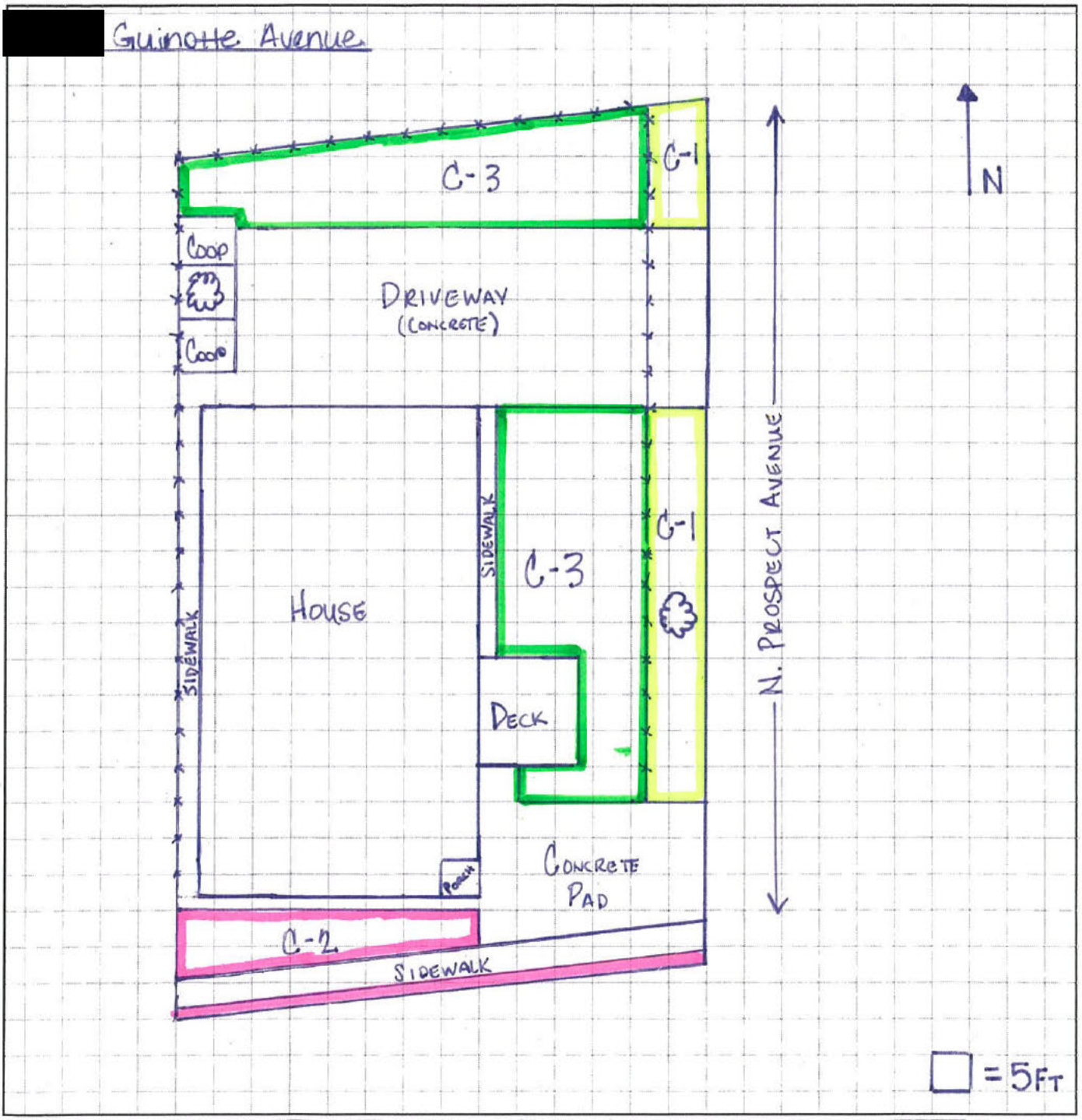
EPA Site #: **KCSR-** 019 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 300.22	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 375.8	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 256.7	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	

[redacted] Guinotte Avenue



KCS and R on Guinotte, Residential Screening Form

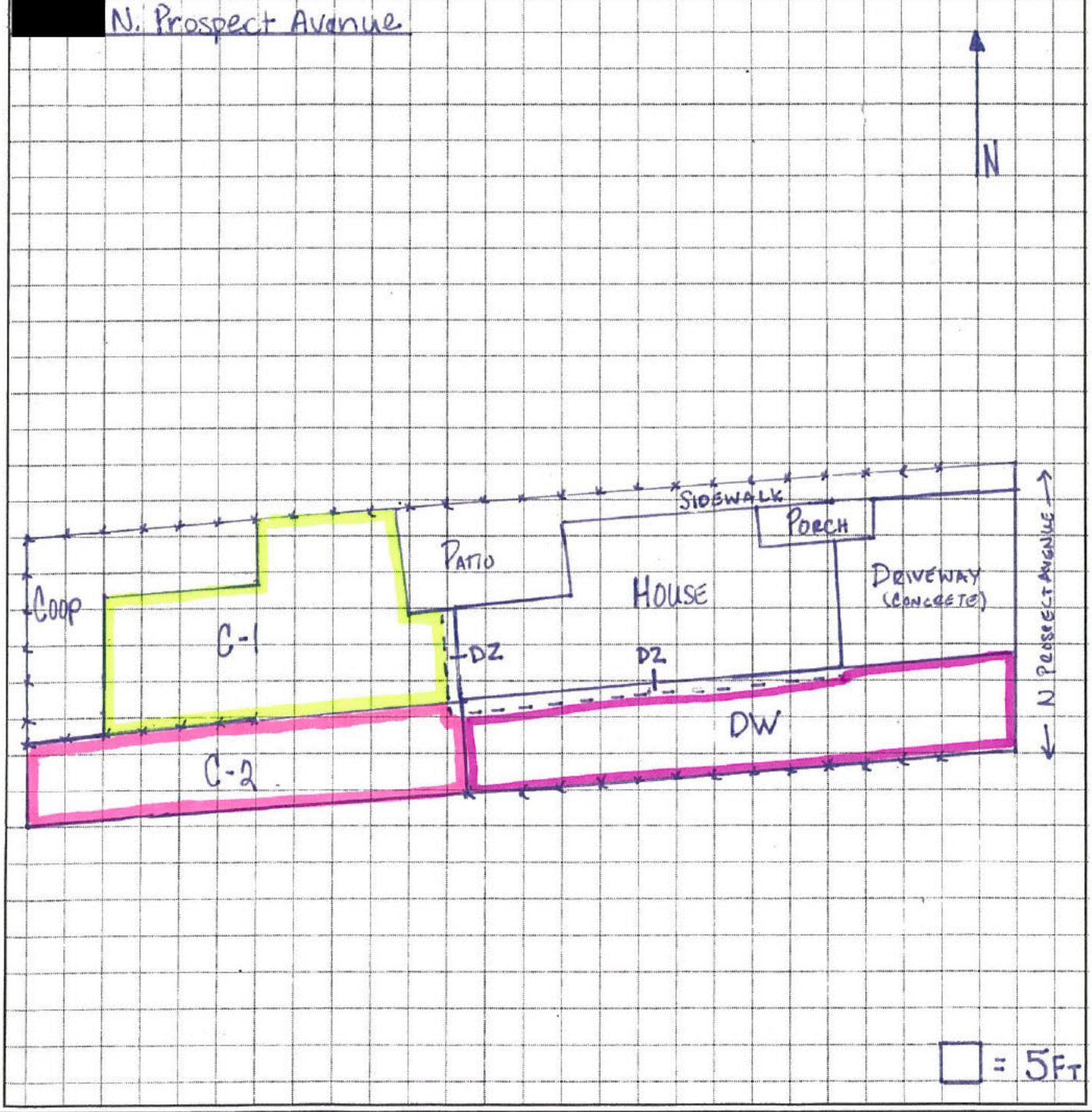
EPA Site #: **KCSR-** 020 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

Cell 1: 497.43	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 362.18	Cell 6: _____	DZ: 527.17	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: 579.74	Garden 2: _____	Play Area: _____	_____	

[redacted] N. Prospect Avenue



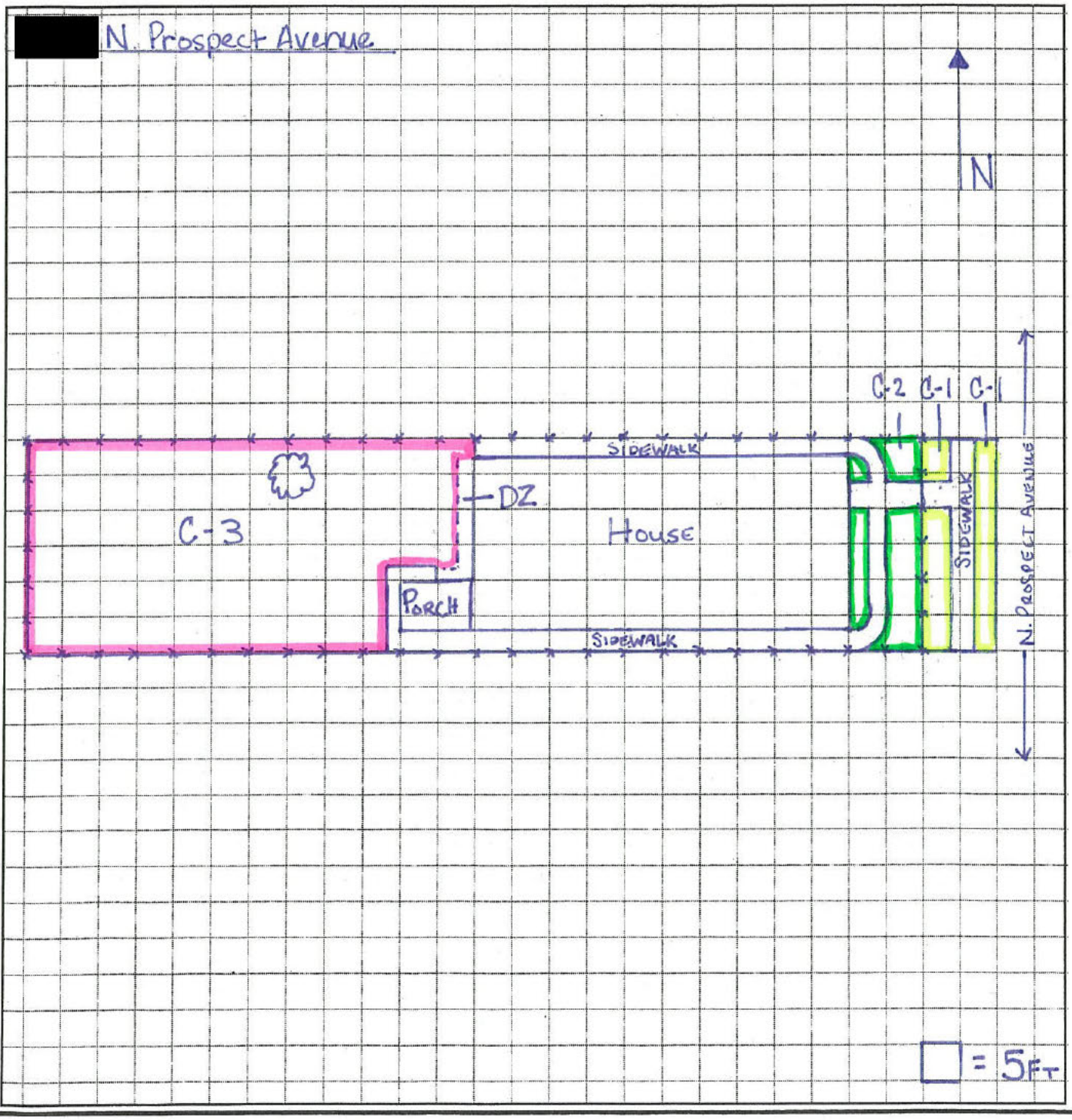
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 021 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/27/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 269.58	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 262.54	Cell 6: _____	• DZ: 638.34	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 181.68	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



KCS and R on Guinotte, Residential Screening Form

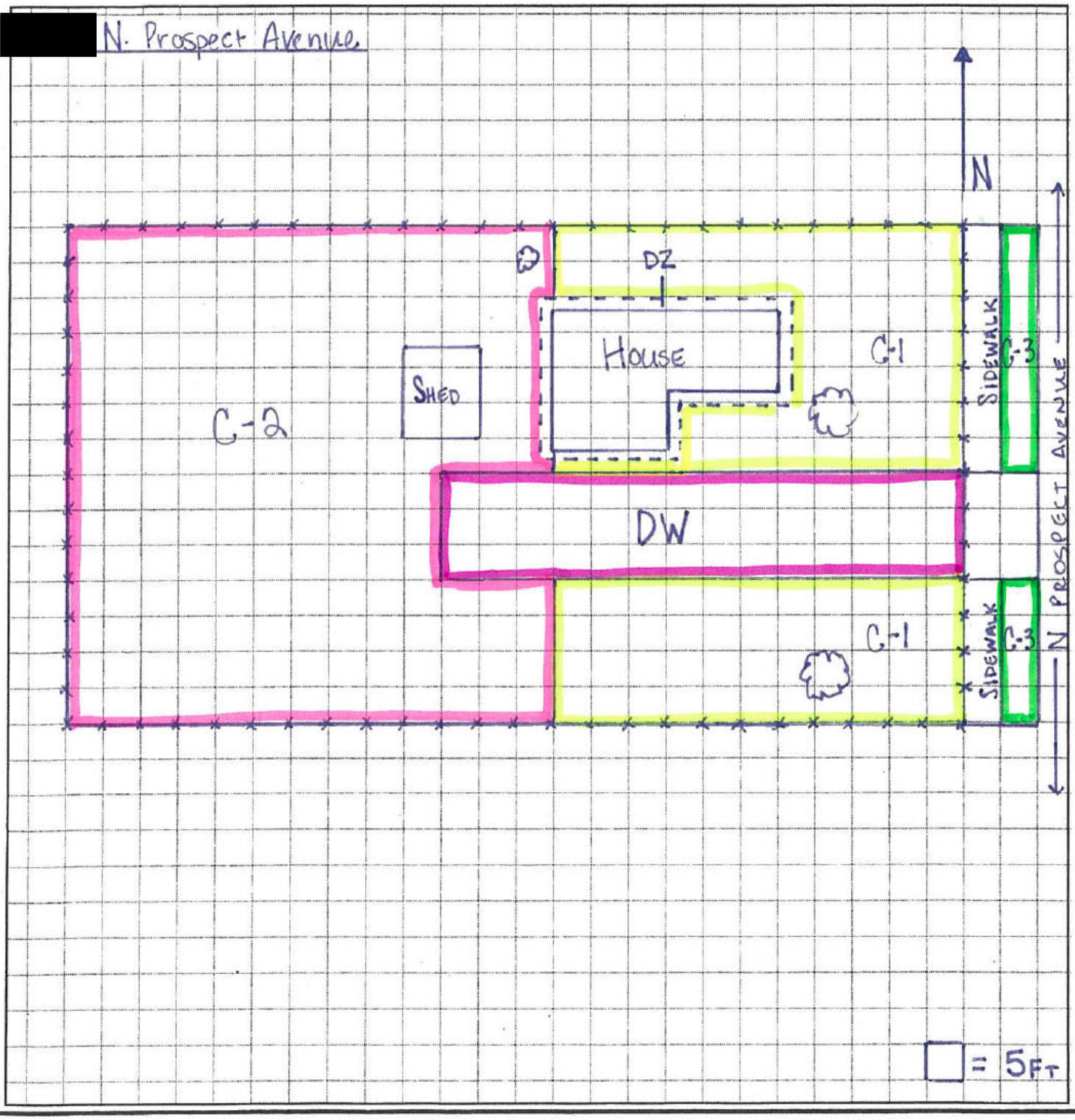
EPA Site #: **KCSR-** 027 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

• Cell 1: 120.57	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 304.17	Cell 6: _____	• DZ: 327.81	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 171.94	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	• DW 1: 245.48	Garden 2: _____	Play Area: _____		

[redacted] N. Prospect Avenue



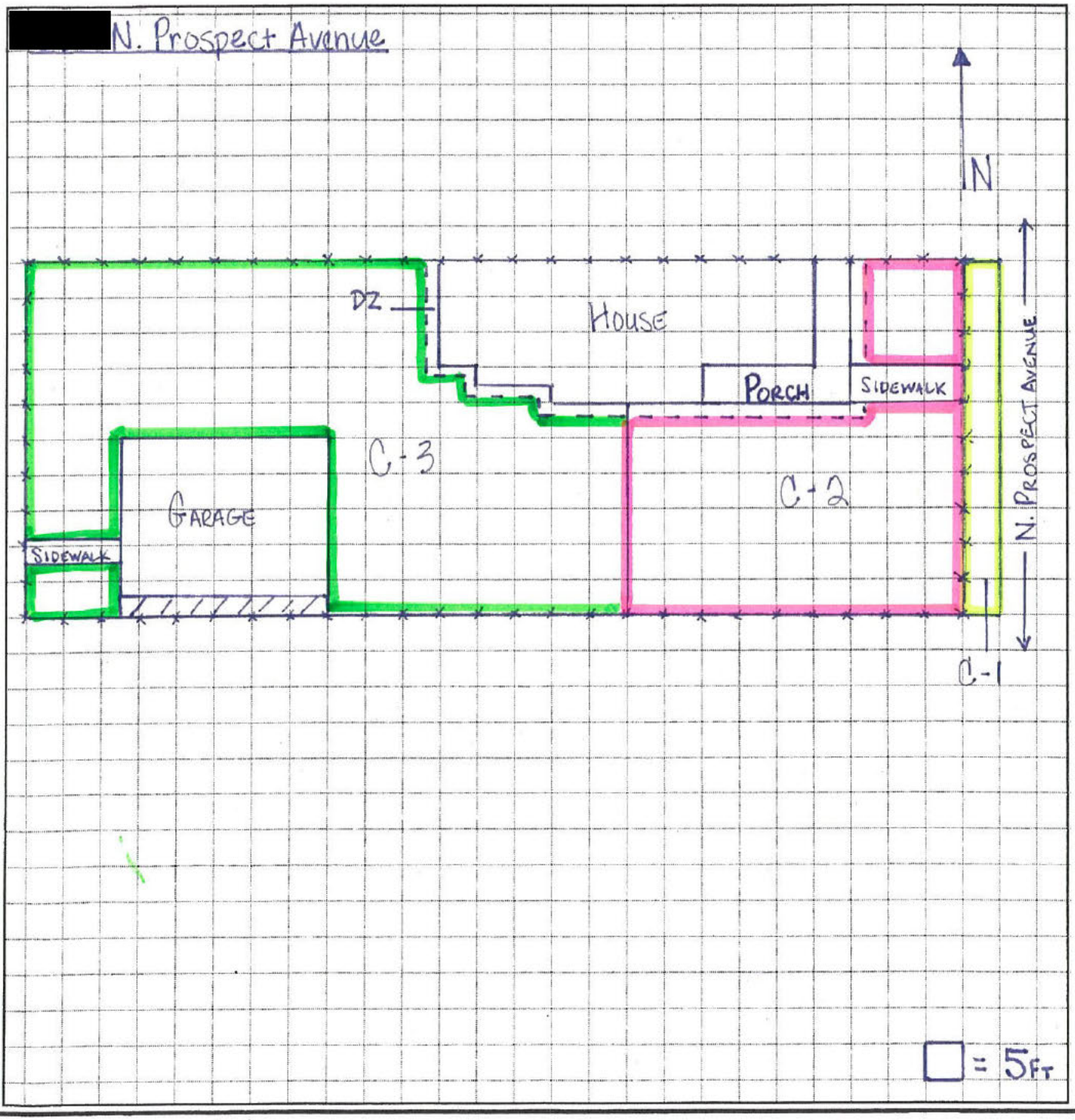
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 023 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 131.32	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 198.42	Cell 6: _____	• DZ: 393.04	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 192.88	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



KCS and R on Guinotte, Residential Screening Form

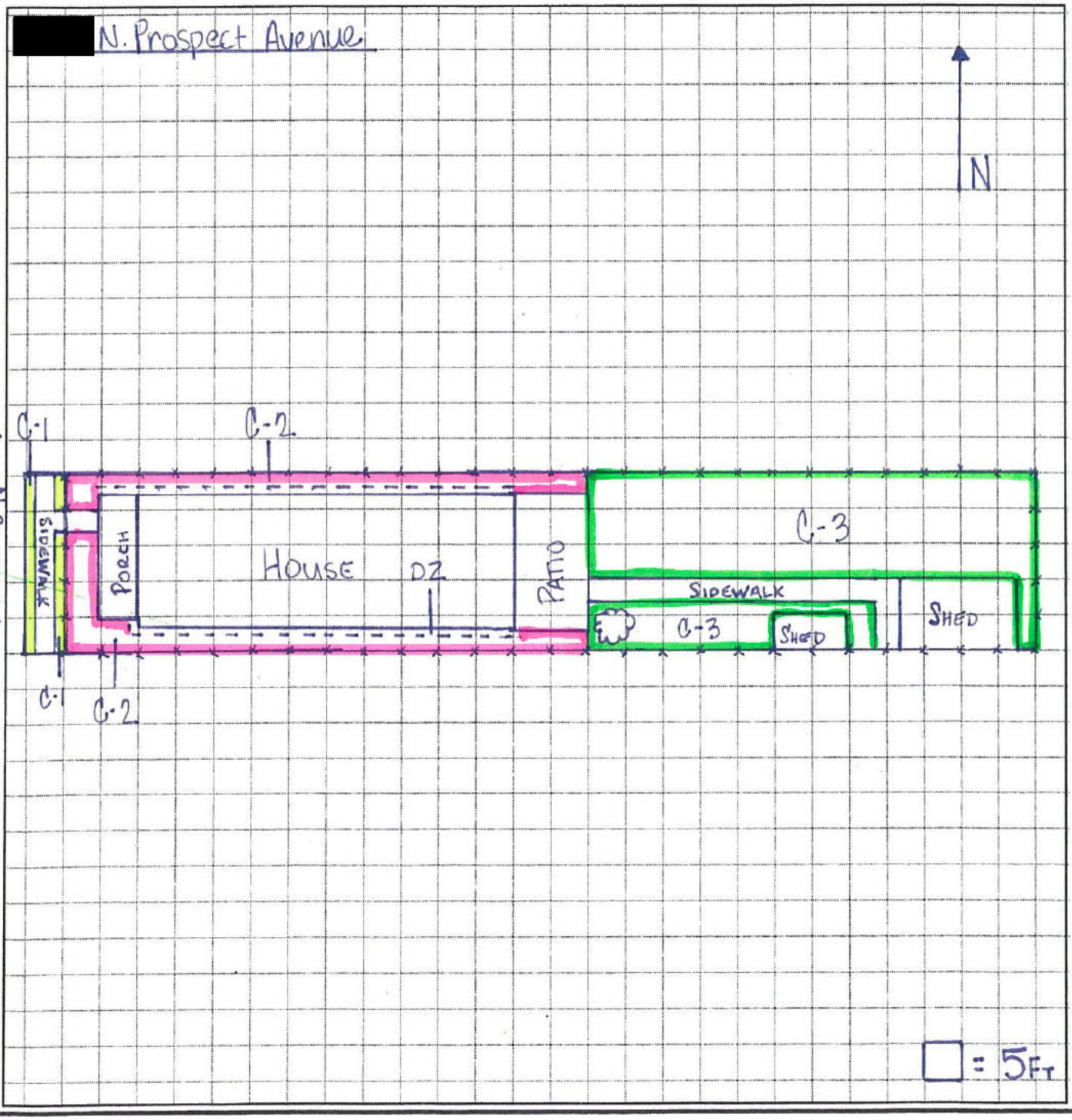
EPA Site #: **KCSR-** 024 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/27/18 Operator: LH

Average XRF Pb Screening Results (ppm)

- Cell 1: 156.41 Cell 5: _____ DW 2: _____ Gravel Area 1: _____ Pile: _____
- Cell 2: 168.89 Cell 6: _____ DZ: 323.17 Gravel Area 2: _____ Alley Easement: _____
- Cell 3: 492.77 Cell 7: _____ Garden 1: _____ Landscaping: _____ Road Easement: _____

Cell 4: _____ DW 1: _____ Garden 2: _____ Play Area: _____ _____



KCS and R on Guinotte, Residential Screening Form

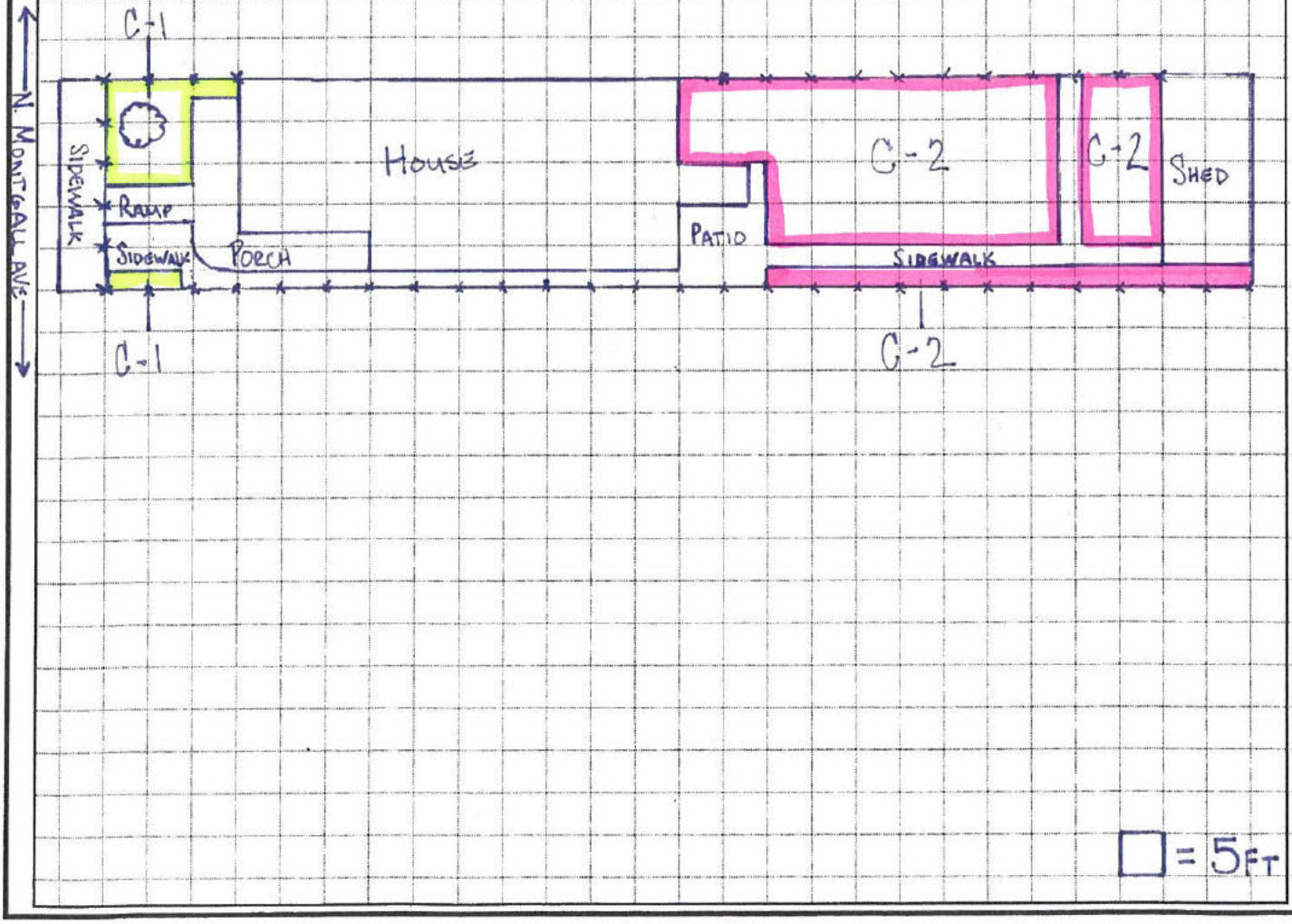
EPA Site #: **KCSR-** 025 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

• Cell 1: 670.93	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 354.28	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	

[redacted] N. Montgall Avenue



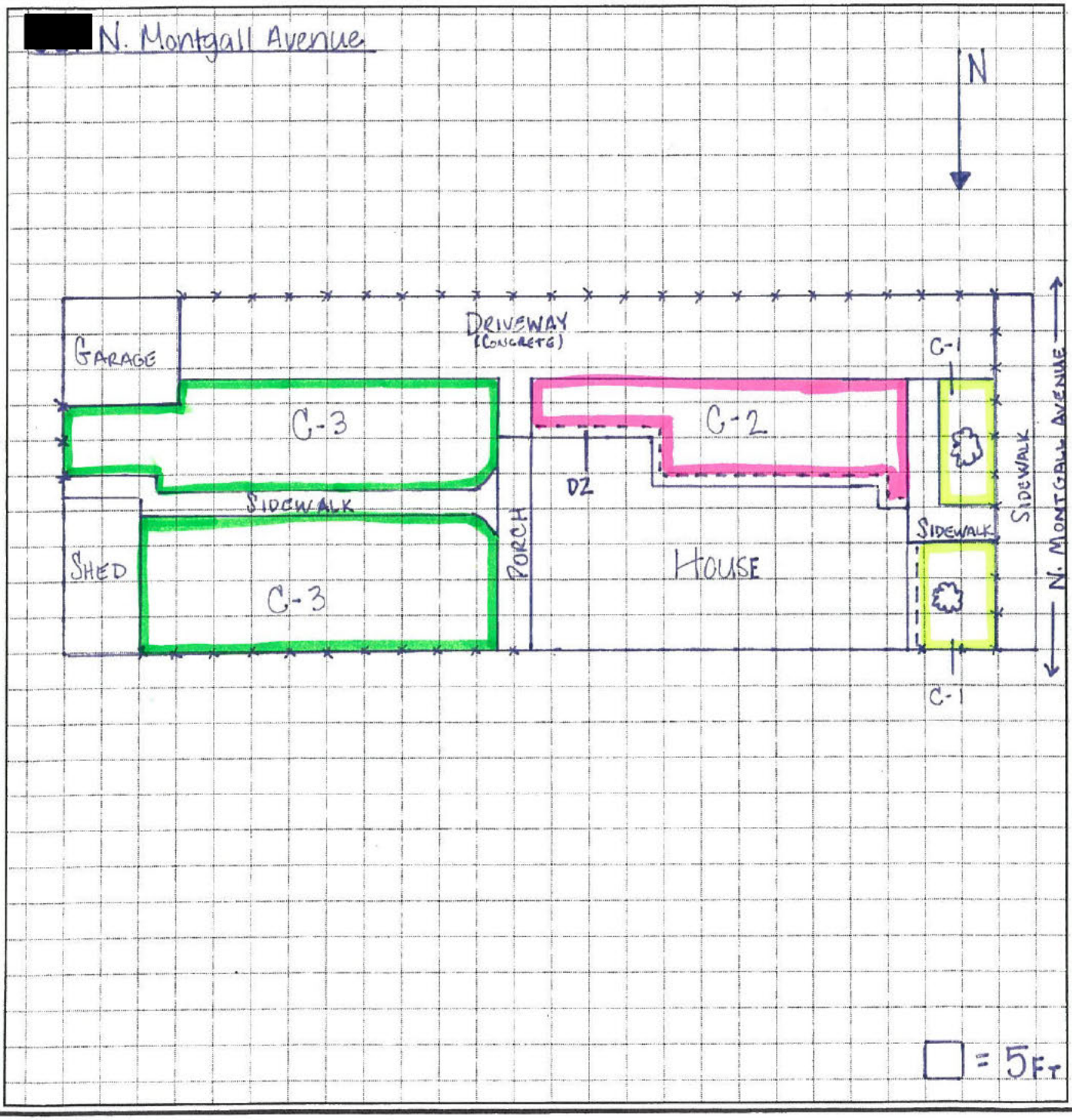
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 026 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

• Cell 1: 355.19	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 281.78	Cell 6: _____	•DZ: 621.31	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 332.17	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____		



KCS and R on Guinotte, Residential Screening Form

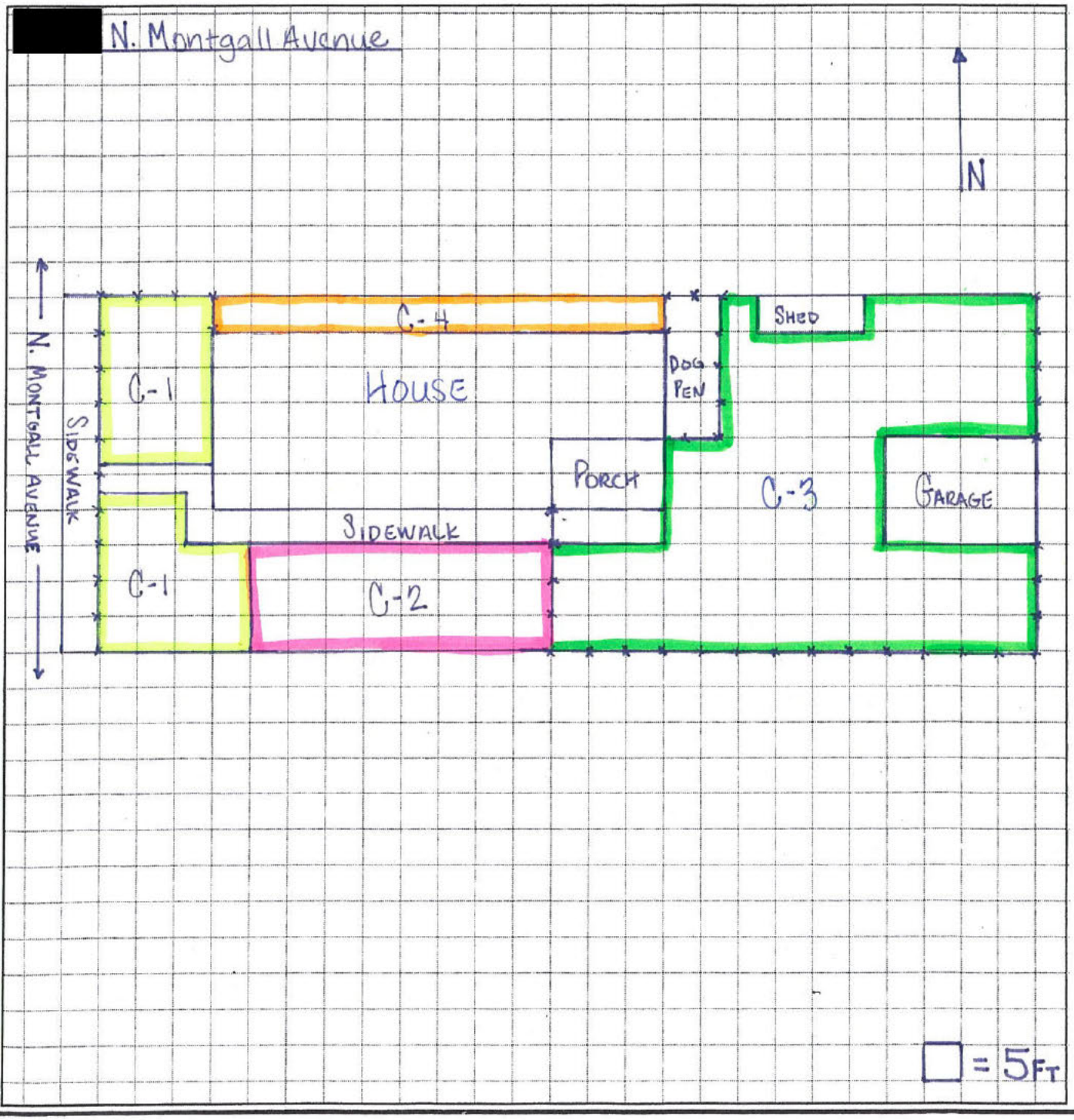
EPA Site #: **KCSR-** 027 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/25/18 Operator: CH

Average XRF Pb Screening Results (ppm)

• Cell 1: 321.3	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____
• Cell 2: 170.83	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____
• Cell 3: 685.64	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____
• Cell 4: 534.59	DW 1: _____	Garden 2: _____	Play Area: _____	_____

[redacted] N. Montgall Avenue



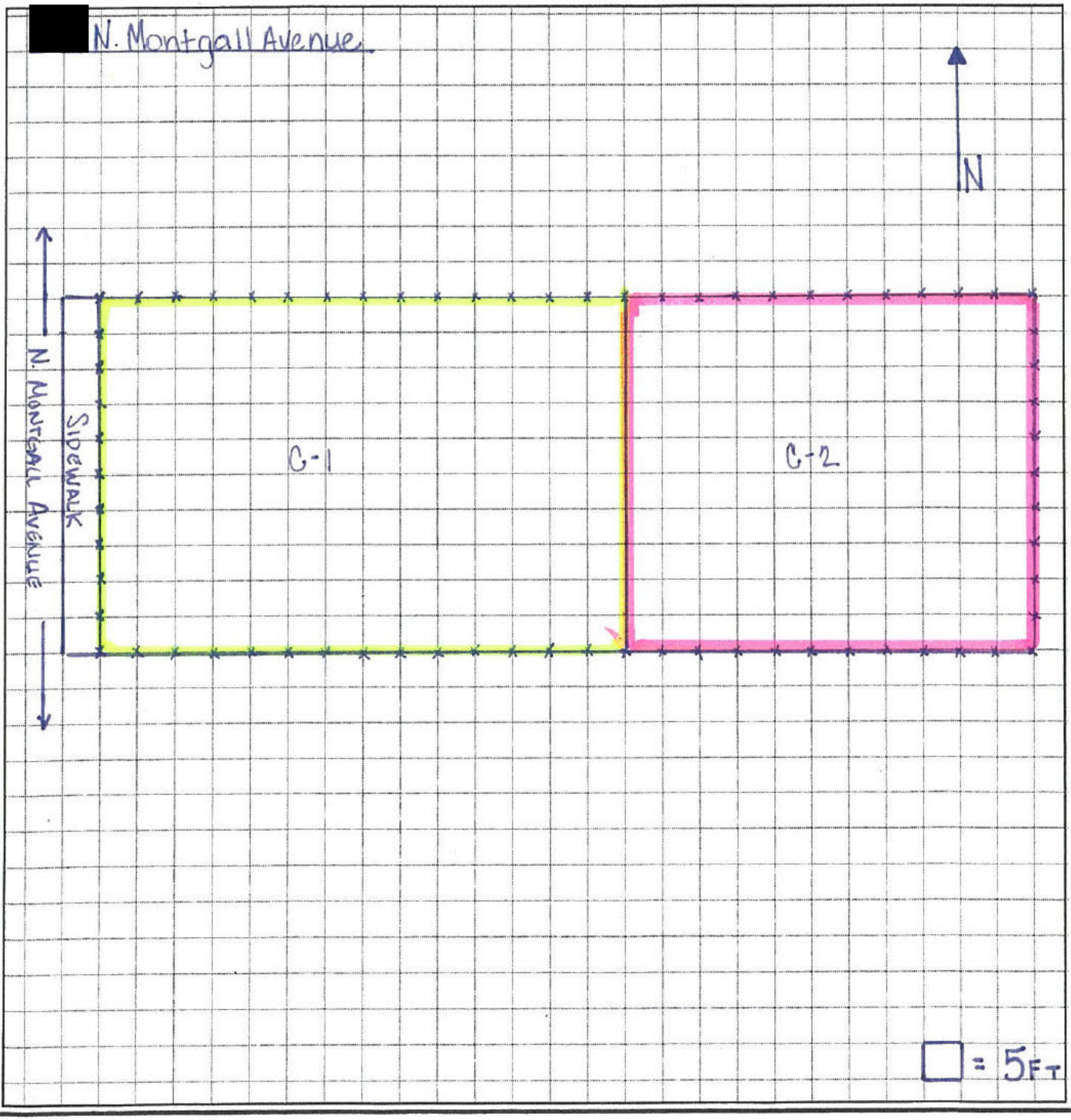
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 028 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

Cell 1: 305.71	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____
Cell 2: 6666.41	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____



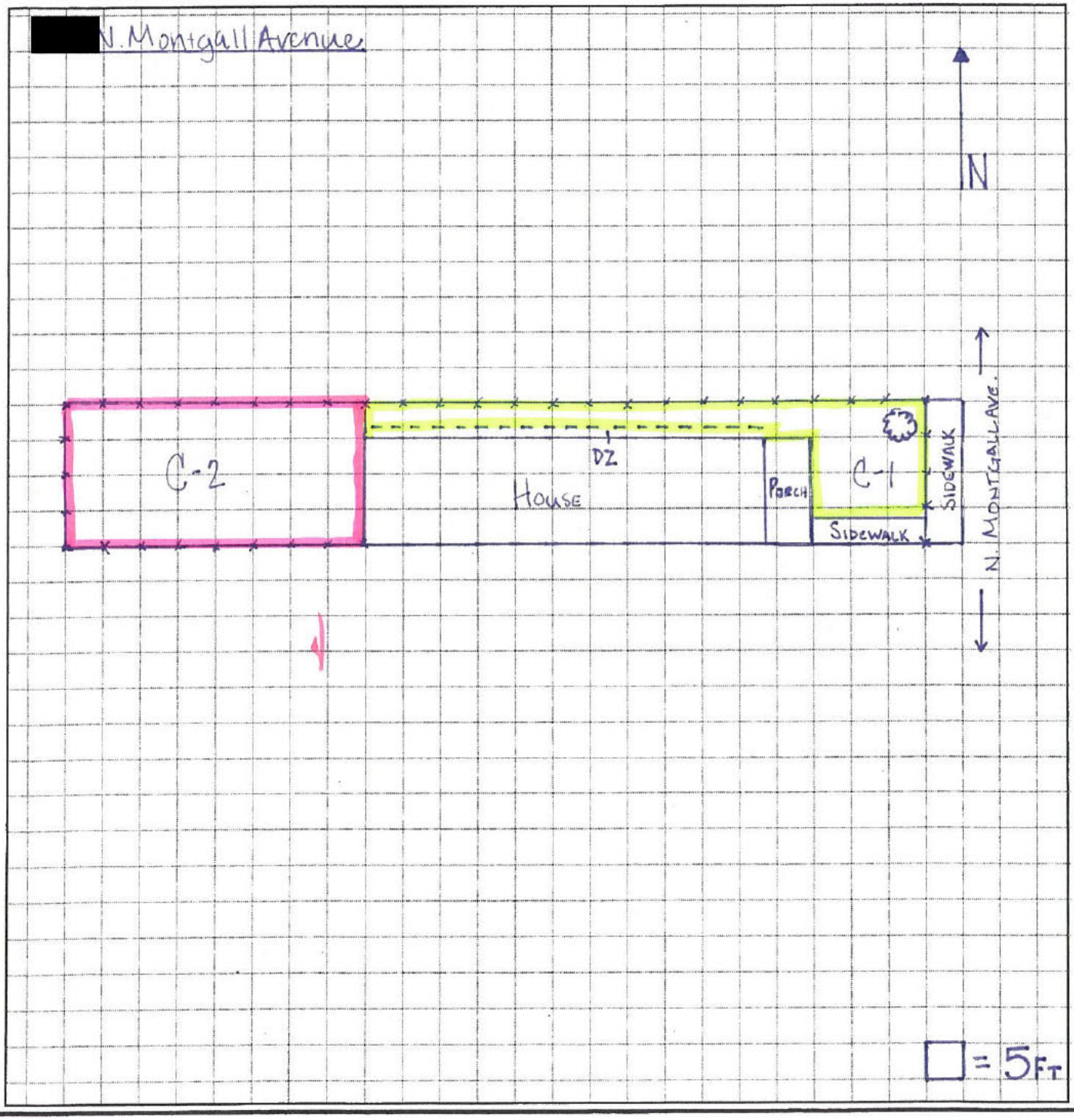
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 029 Date of Access: 9/11/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

Cell 1: 285.78	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 206.81	Cell 6: _____	DZ: 313.51	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



KCS and R on Guinotte, Residential Screening Form

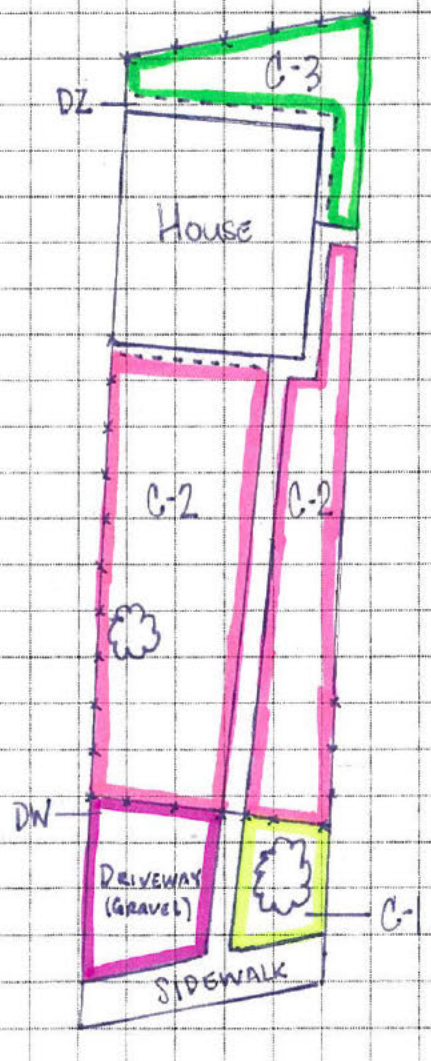
EPA Site #: **KCSR-** 030 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 101.7	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 285.1	Cell 6: _____	• DZ: 151.88	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 338.86	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	• DW 1: 305.35	Garden 2: _____	Play Area: _____	_____	

[redacted] Guinotte Avenue



N

□ = 5Ft

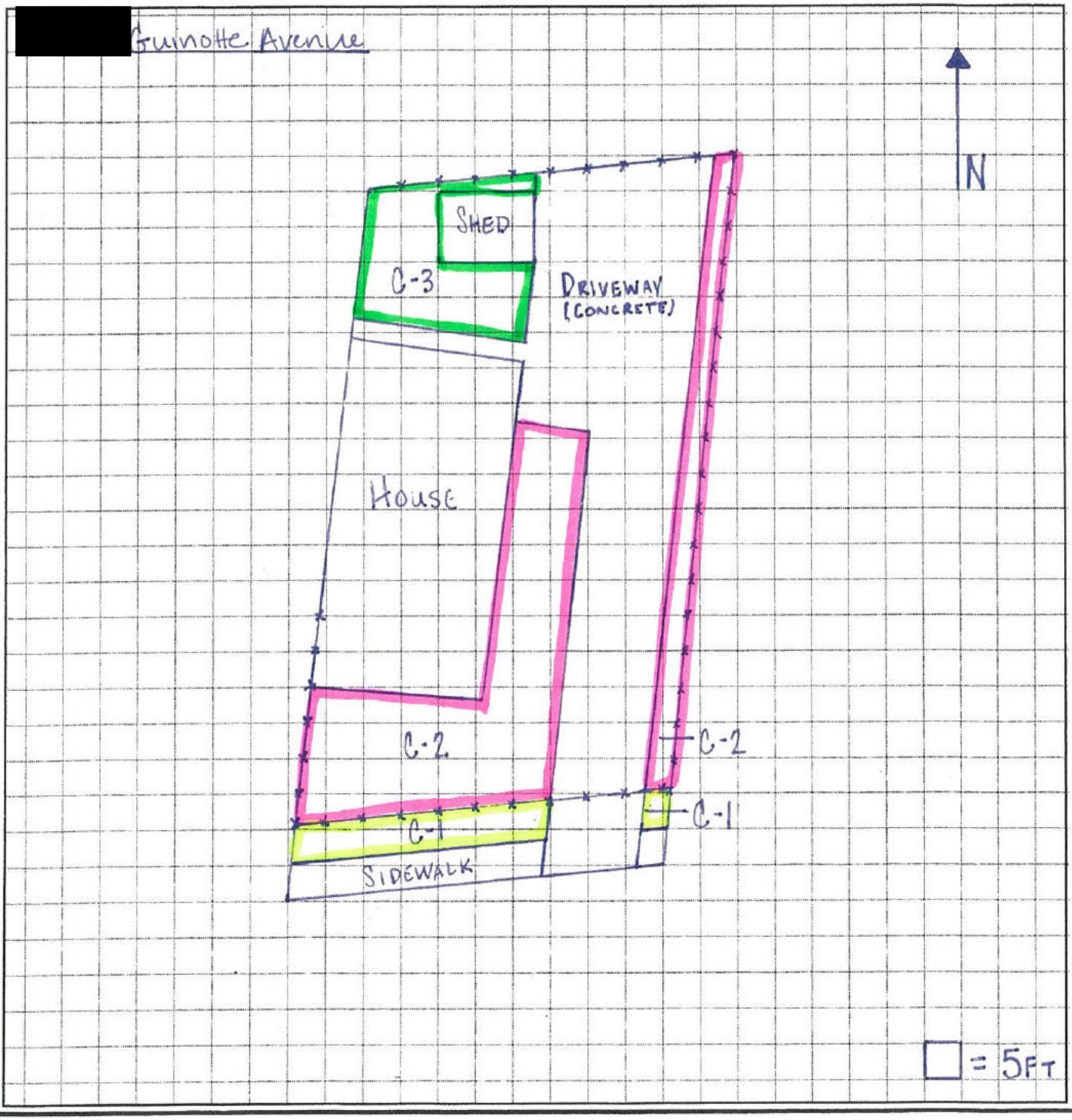
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 031 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

Cell 1:	179.52	Cell 5:	_____	DW 2:	_____	Gravel Area 1:	_____	Pile:	_____
Cell 2:	288.61	Cell 6:	_____	DZ:	593.06	Gravel Area 2:	_____	Alley Easement:	_____
Cell 3:	387.54	Cell 7:	_____	Garden 1:	_____	Landscaping:	_____	Road Easement:	_____
Cell 4:	_____	DW 1:	_____	Garden 2:	_____	Play Area:	_____		_____



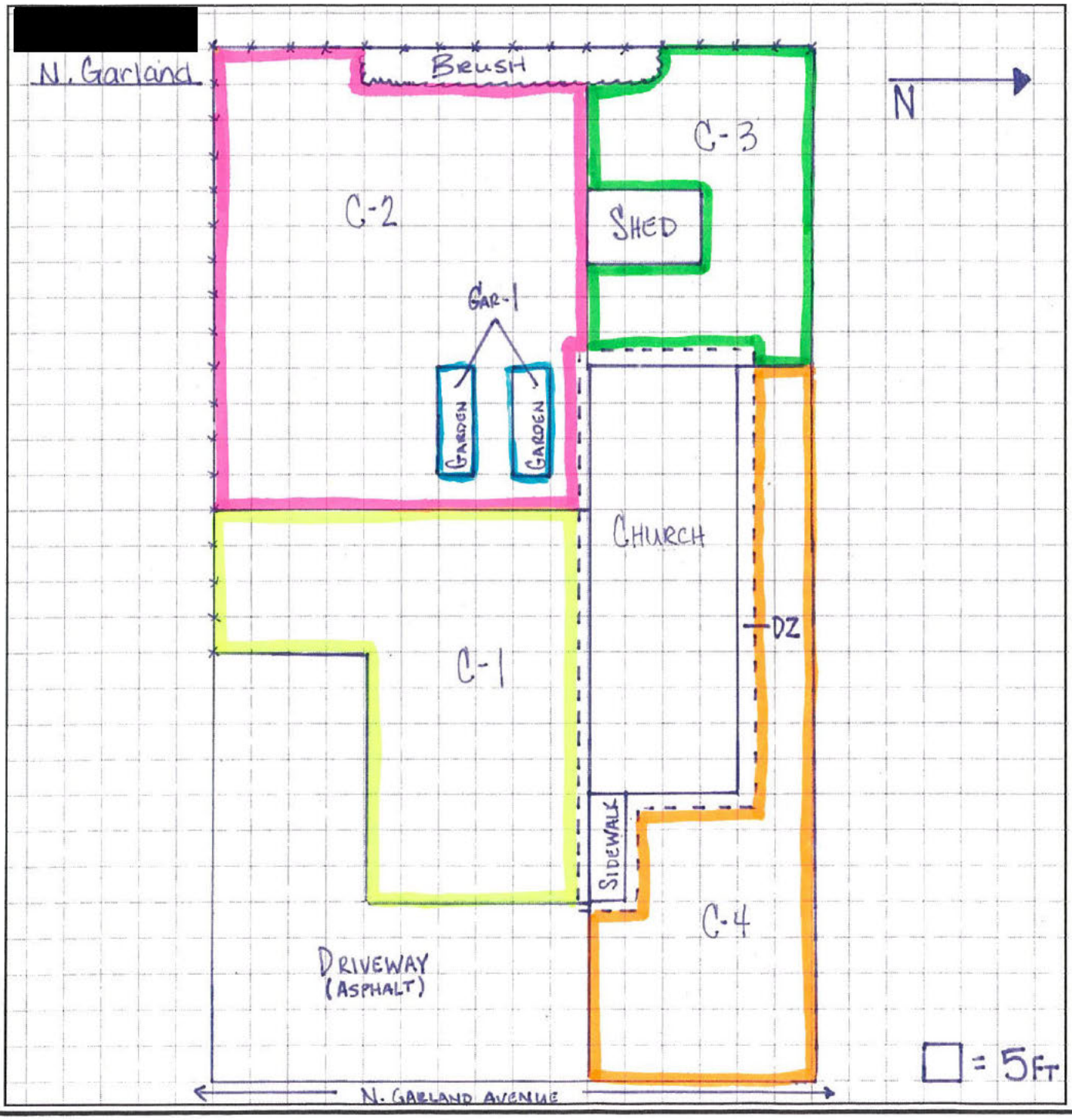
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 032 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

Cell 1: 160.56	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 176.95	Cell 6: _____	DZ: 95.34	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: 166.09	Cell 7: _____	Garden 1: 84.03	Landscaping: _____	Road Easement: _____	
Cell 4: 169.55	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



KCS and R on Guinotte, Residential Screening Form

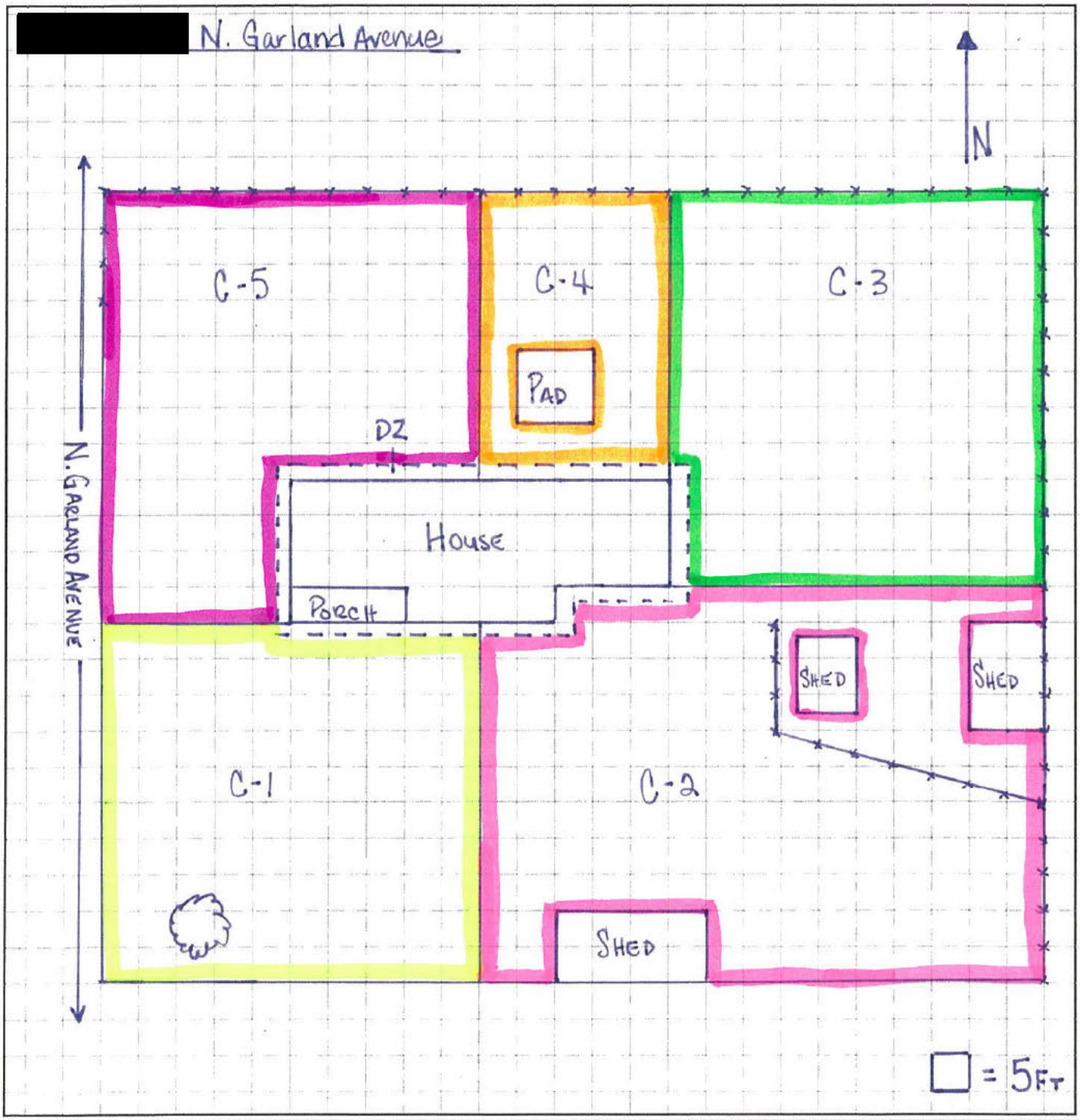
EPA Site #: **KCSR-** 033 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/27/18 Operator: CH

Average XRF Pb Screening Results (ppm)

Cell 1: 144.34	Cell 5: 323.07	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 631.46	Cell 6: _____	DZ: 1048.35	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: 410.52	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: 278.85	DW 1: _____	Garden 2: _____	Play Area: _____	_____	

[redacted] N. Garland Avenue



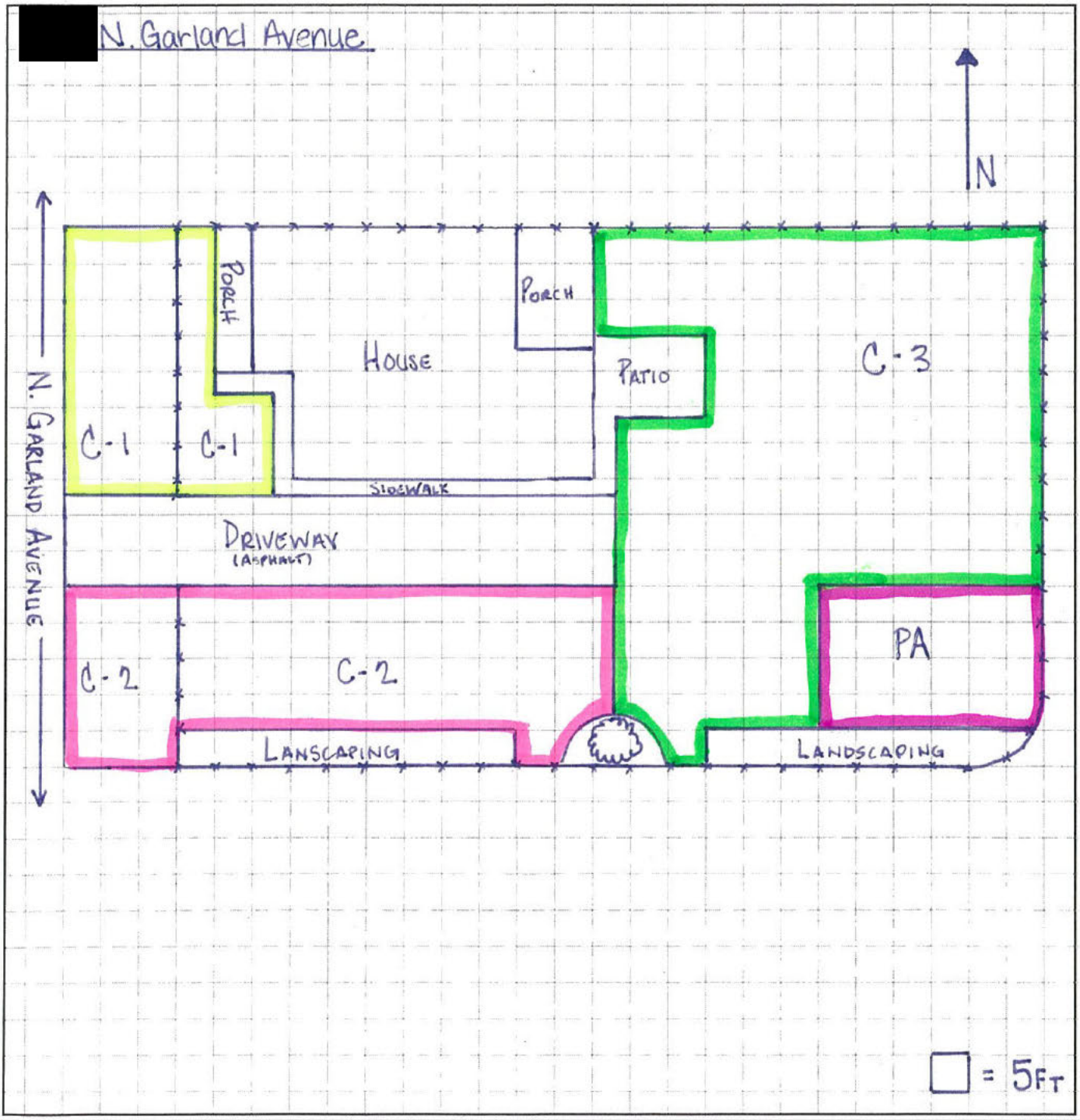
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 034 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 542 Date: 9/25/18 Operator: CH

Average XRF Pb Screening Results (ppm)

• Cell 1: 133.15	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 148.03	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 345.99	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	• Play Area: _____	_____	



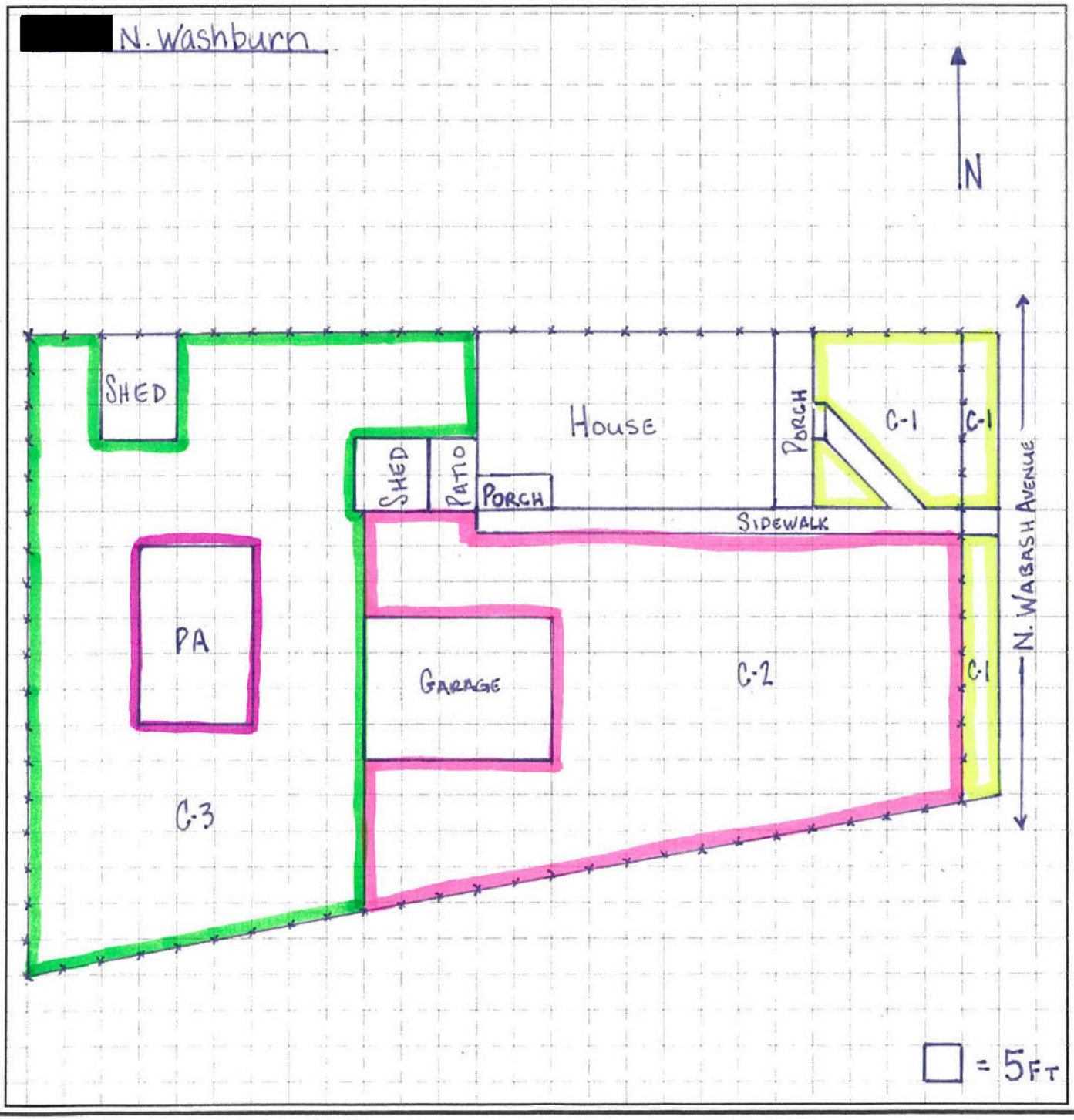
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 035 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/25/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 238.91	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 357.36	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 426.51	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	• Play Area: 278.66	_____	



KCS and R on Guinotte, Residential Screening Form

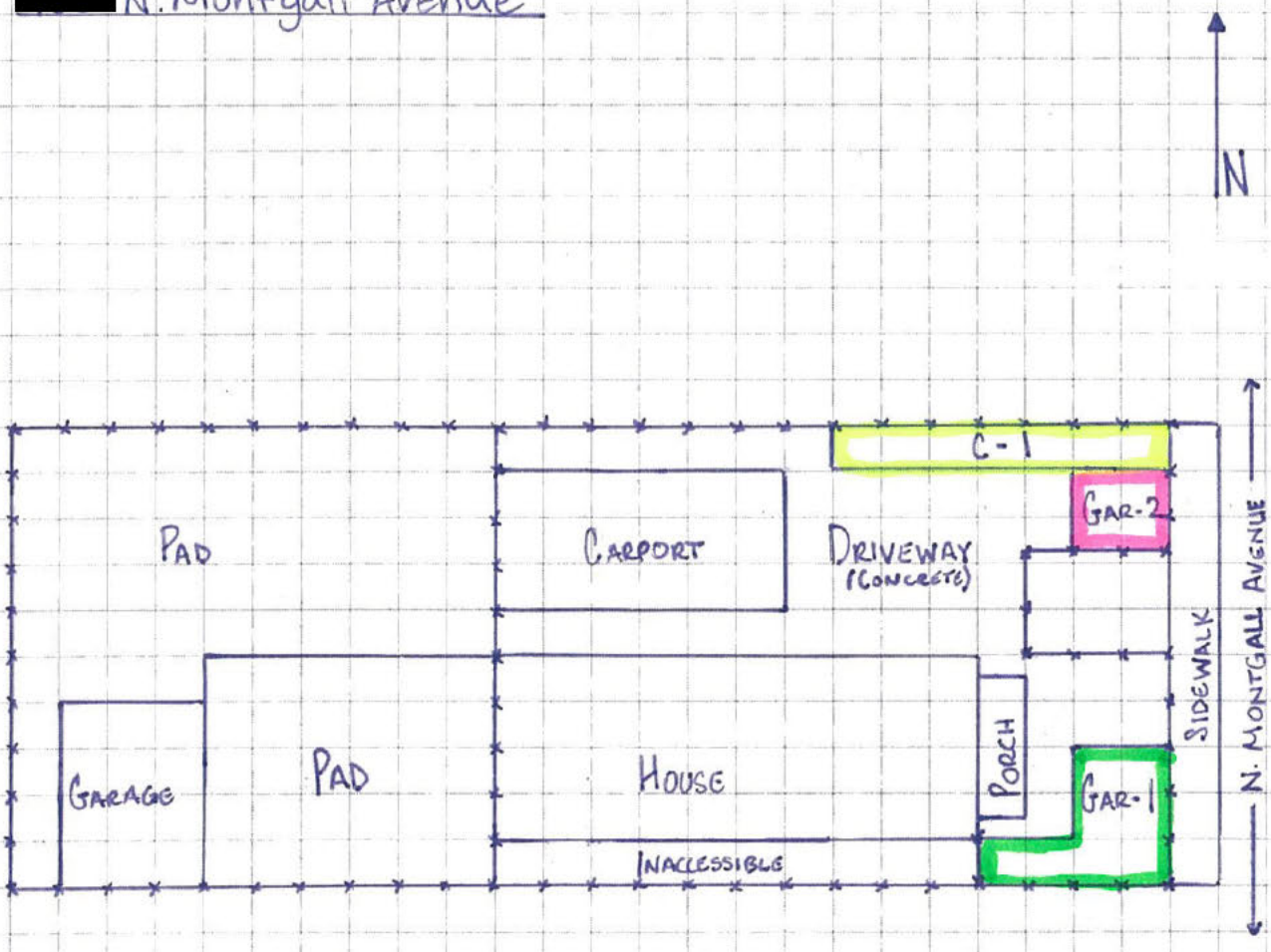
EPA Site #: **KCSR-** 036 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

Cell 1: 226.07	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: _____	Cell 6: _____	DZ: _____	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: 317.07	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: 259.59	Play Area: _____	_____	

[redacted] N. Montgall Avenue



KCS and R on Guinotte, Residential Screening Form

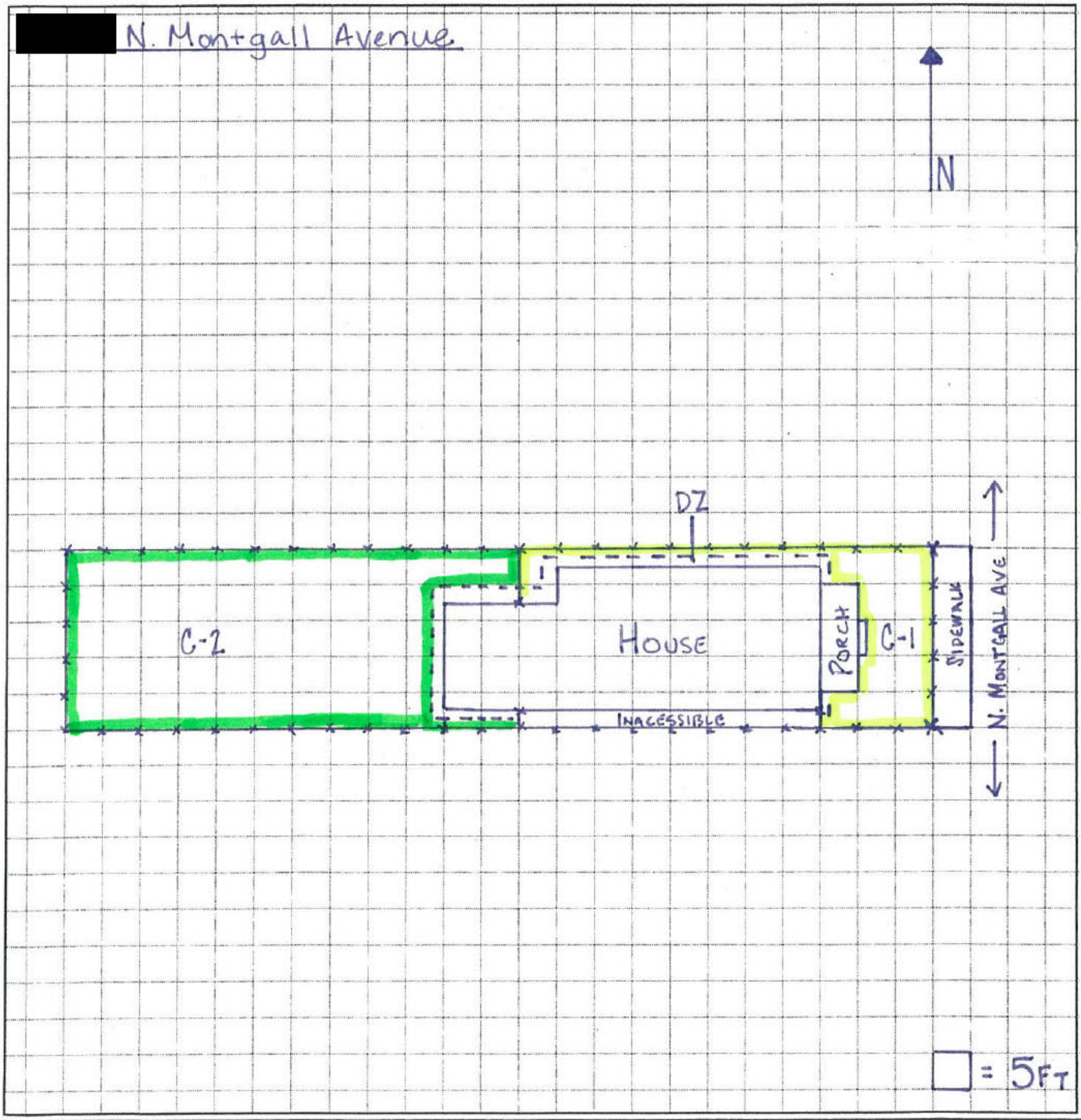
EPA Site #: **KCSR-** 037 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: LH

Average XRF Pb Screening Results (ppm)

Cell 1: 712.72	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 391.23	Cell 6: _____	DZ: 1140.3	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	

[redacted] N. Montgall Avenue.



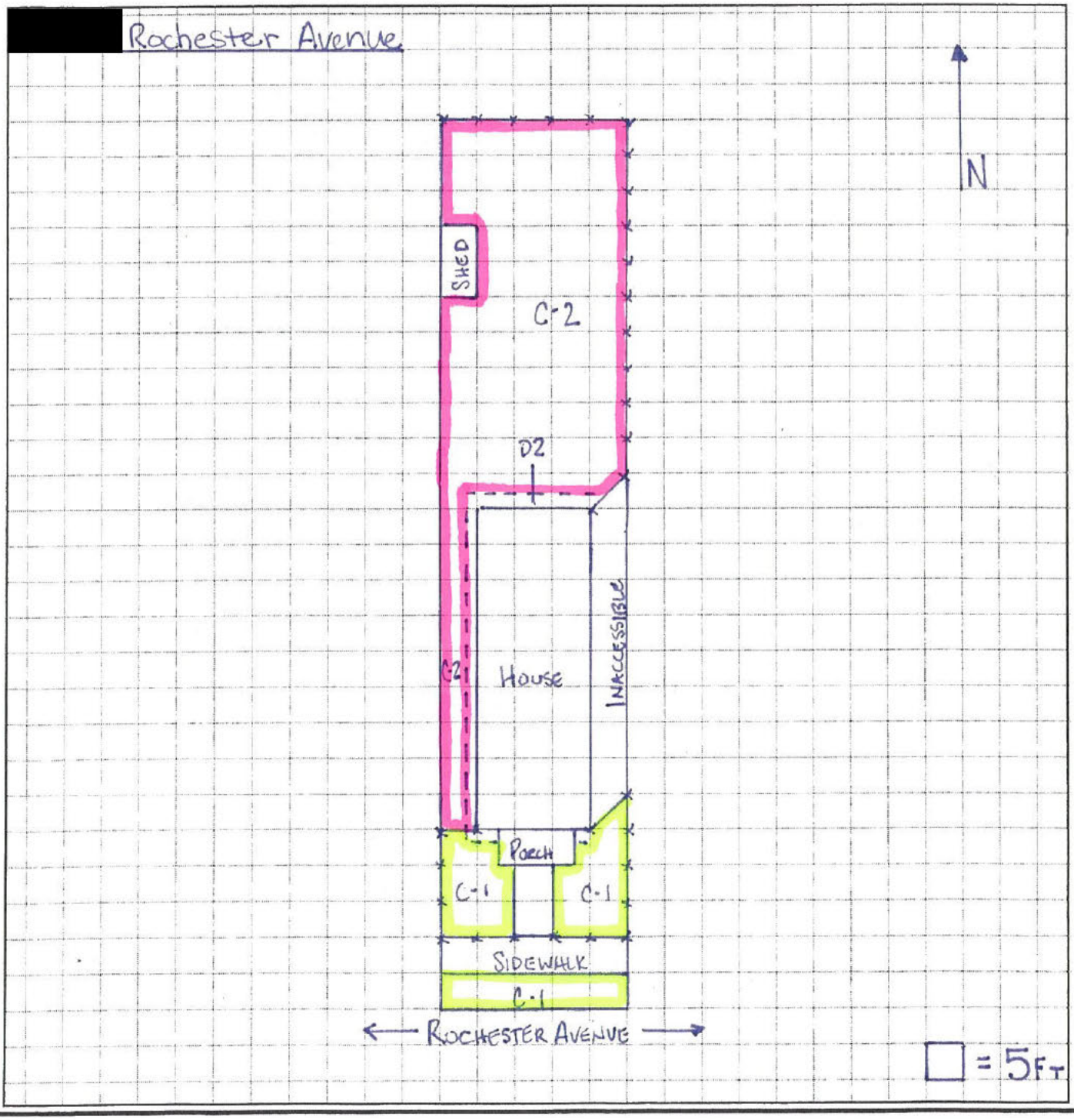
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 038 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1547 Date: 9/25/18 Operator: CH

Average XRF Pb Screening Results (ppm)

Cell 1: 356.17	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 405.47	Cell 6: _____	DZ: 424.16	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



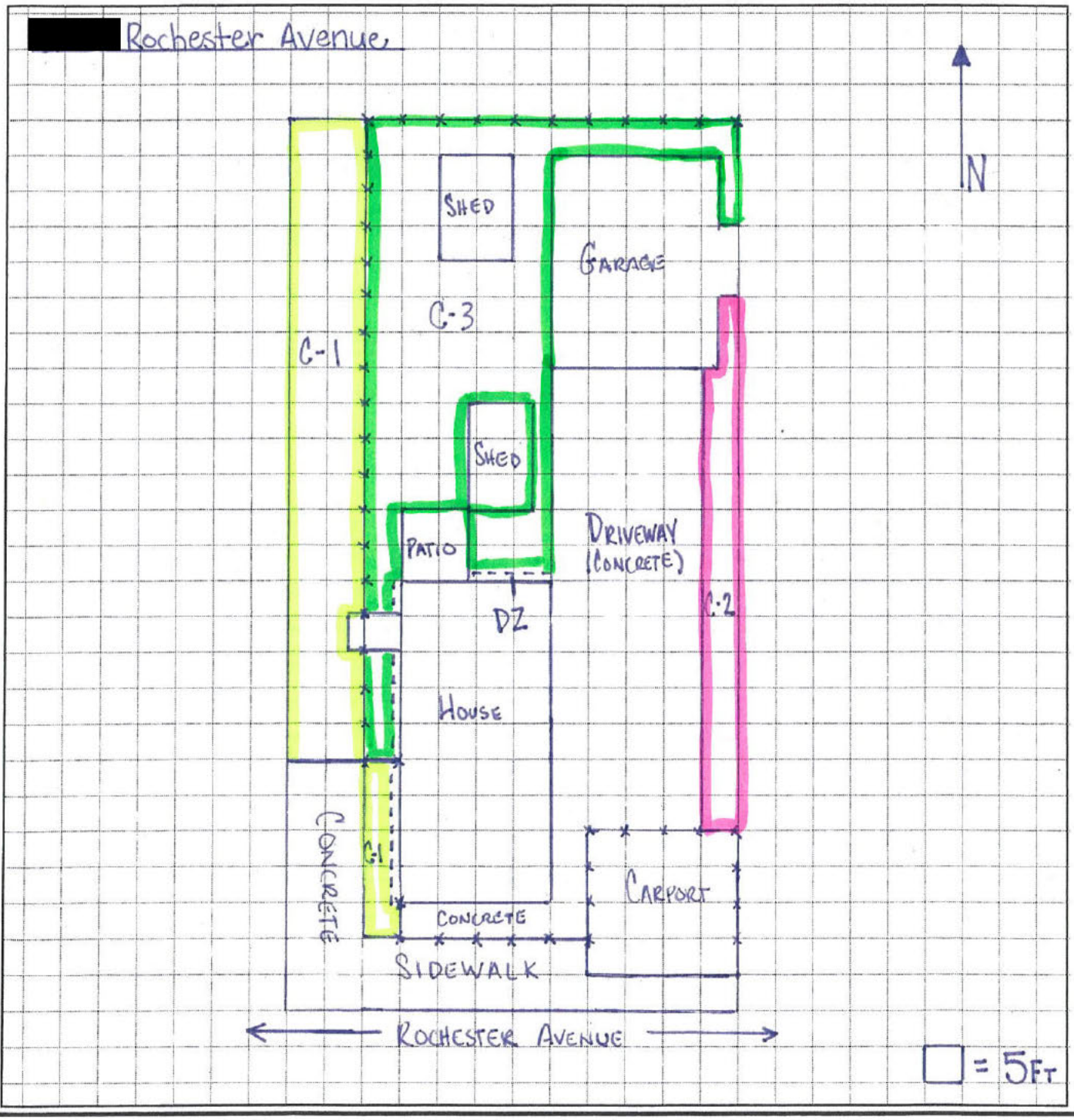
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 039 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/25/18 Operator: LH

Average XRF Pb Screening Results (ppm)

Cell 1: 279.3	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 293.05	Cell 6: _____	DZ: 540.02	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: 279.3	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



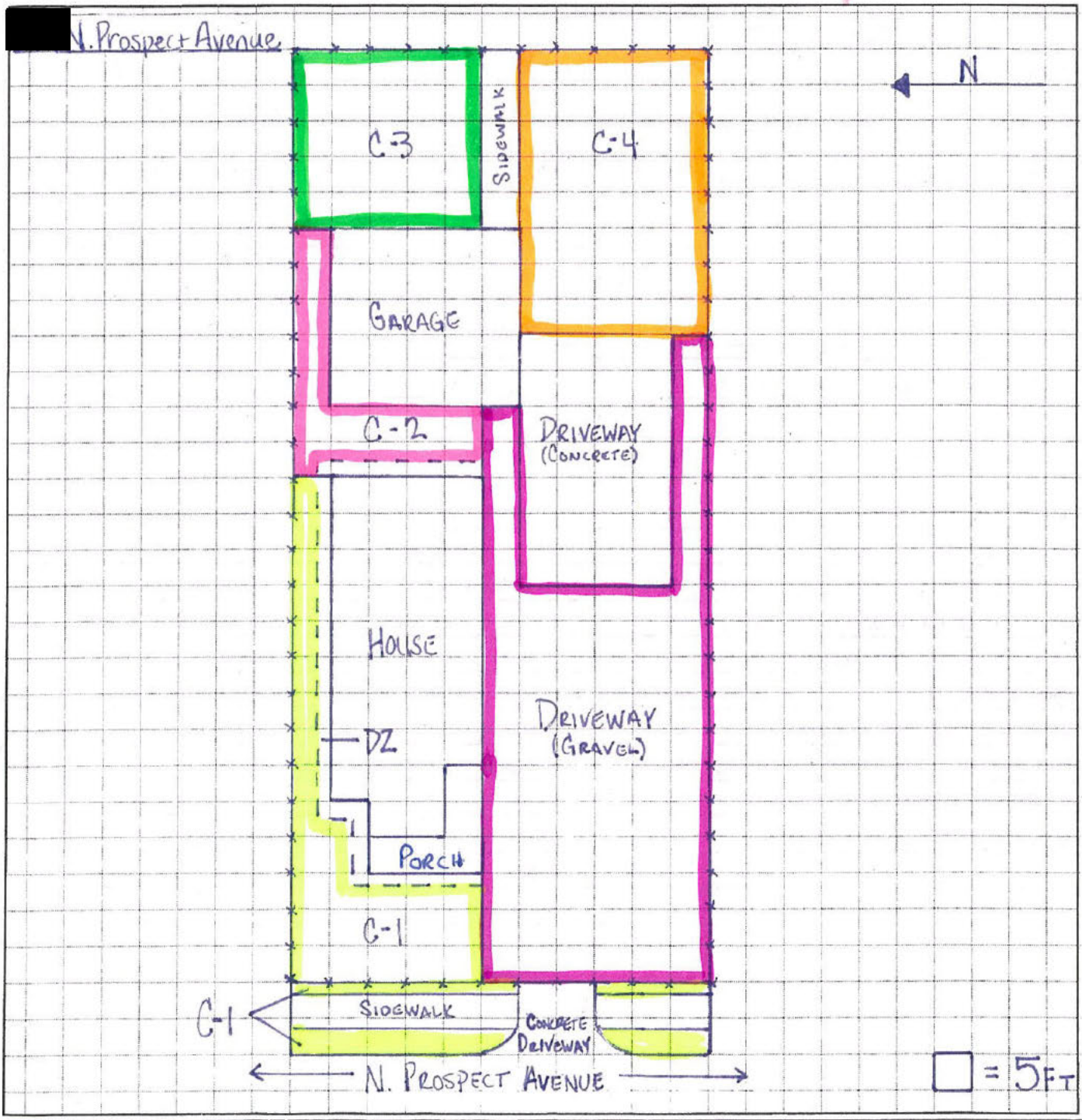
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 040 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/25/18 Operator: LH

Average XRF Pb Screening Results (ppm)

• Cell 1: 512.01	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
• Cell 2: 436.81	Cell 6: _____	• DZ: 1624.81	Gravel Area 2: _____	Alley Easement: _____	
• Cell 3: 687.69	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
• Cell 4: 807.55	• DW 1: 547.19	Garden 2: _____	Play Area: _____	_____	



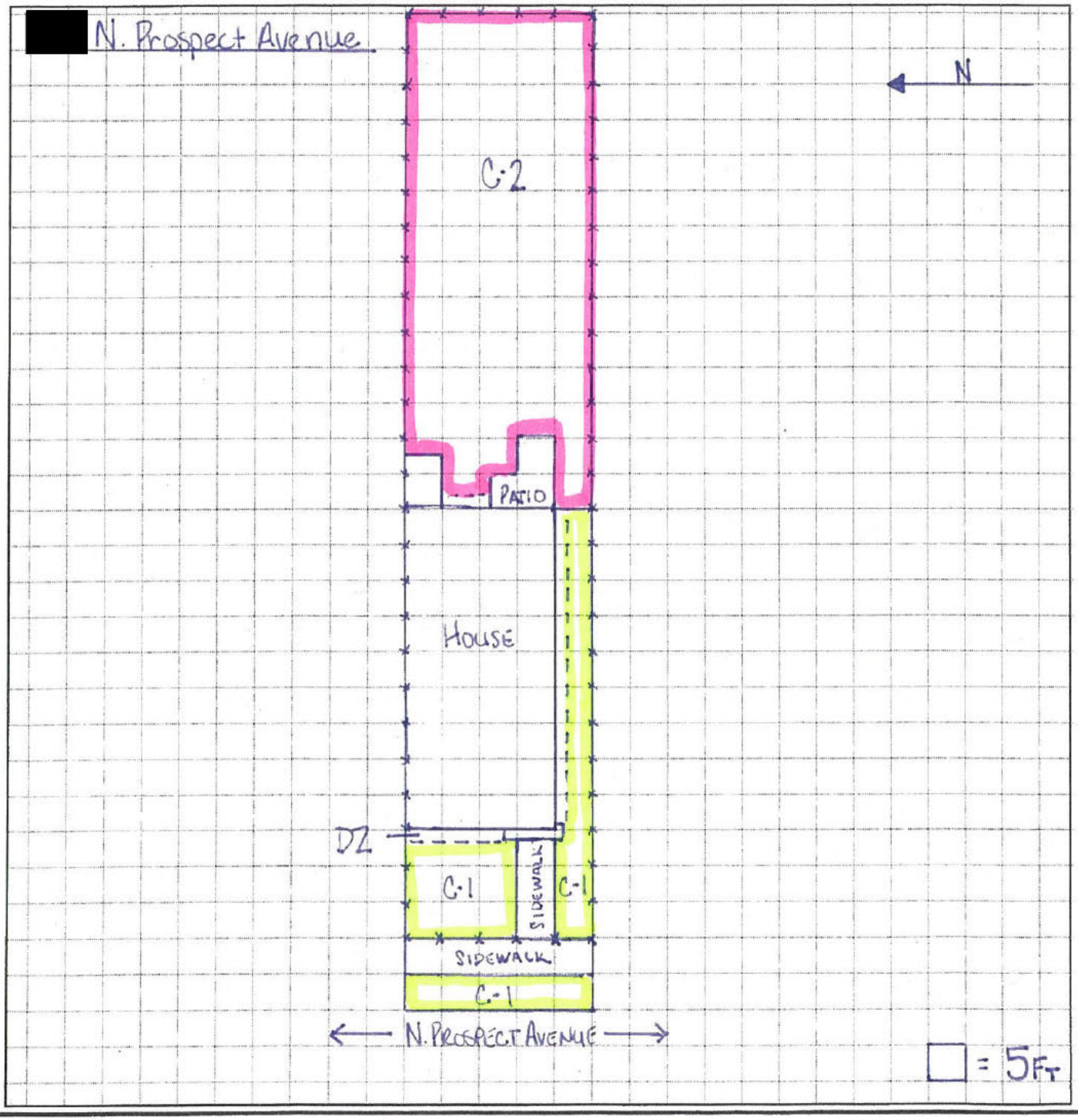
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 041 Date of Access: 9/12/18 Date of Screening: _____

Screening Results: XRF I.D.: 1542 Date: 9/24/18 Operator: CH

Average XRF Pb Screening Results (ppm)

Cell 1: 230.09	Cell 5: _____	DW 2: _____	Gravel Area 1: _____	Pile: _____	
Cell 2: 456.77	Cell 6: _____	DZ: 821.22	Gravel Area 2: _____	Alley Easement: _____	
Cell 3: _____	Cell 7: _____	Garden 1: _____	Landscaping: _____	Road Easement: _____	
Cell 4: _____	DW 1: _____	Garden 2: _____	Play Area: _____	_____	



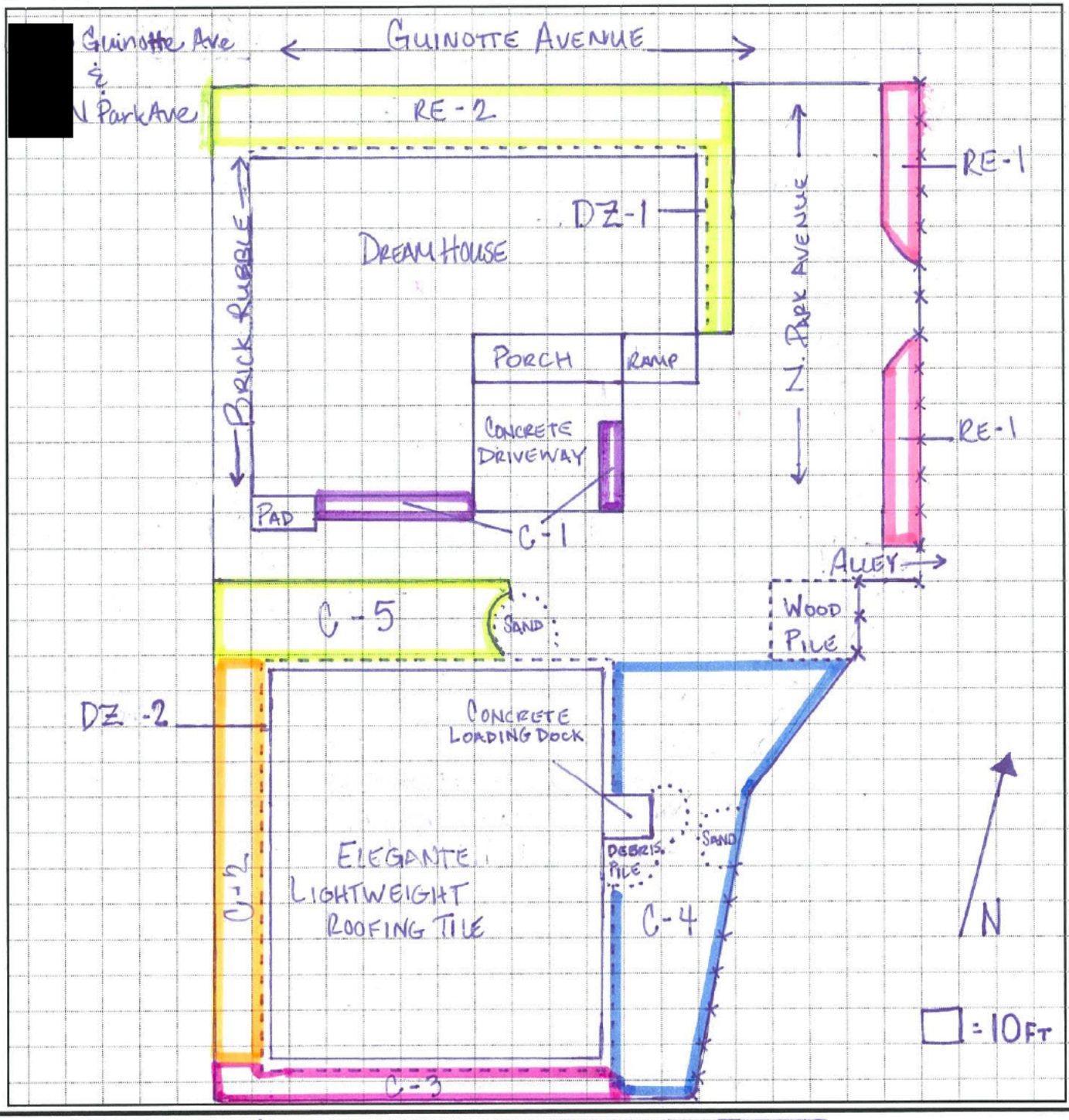
KCS and R on Guinotte, Residential Screening Form

EPA Site #: **KCSR-** 042 Date of Access: 12/18/18 Date of Screening: 12/19/18

Screening Results: XRF I.D.: 1532 Date: 12/19/18 Operator: LH

Average XRF Pb Screening Results (ppm)

Cell 1:	3215.4	Cell 5:	1113.0	~~DW 2:~~ DZ-1	2818.8	Gravel Area 1:		Pile:	
Cell 2:	1460.9	Cell 6:		DZ-2	696.63	Gravel Area 2:		Alley Easement:	
Cell 3:	473.85	Cell 7:		Garden 1:		Landscaping:		Road Easement:	
Cell 4:	822.91	DW 1:		Garden 2:		Play Area:			



APPENDIX C

PROPERTY MAPS

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-001
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_001.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-002
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-003
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-004
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-005
XRF Sreening Map

TETRA TECH

Date 2/8/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-006
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-007
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-008
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-009
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-010
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-011
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-012
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-013
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-014
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-015
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-016
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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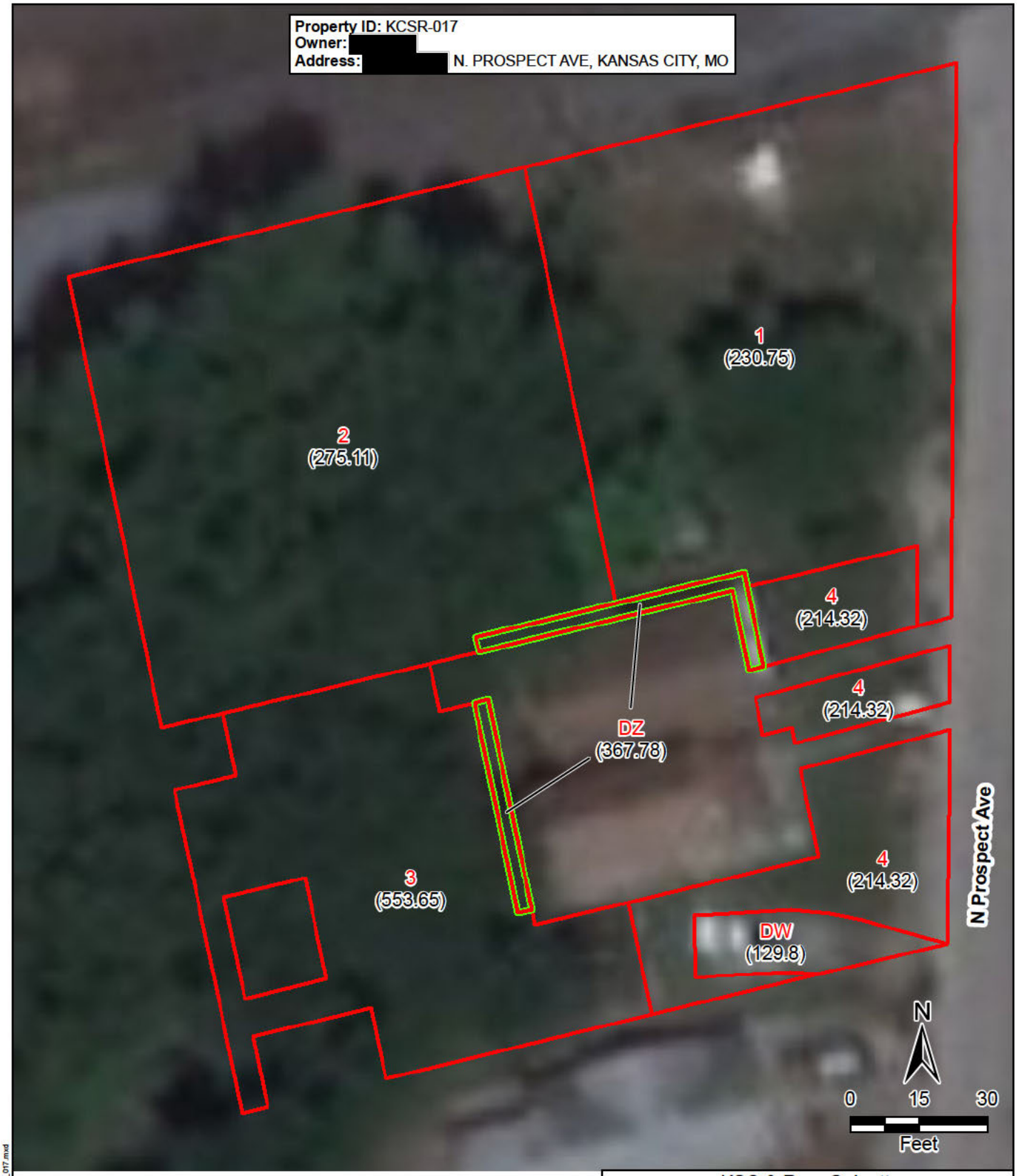

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-017
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-018
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-019
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-020
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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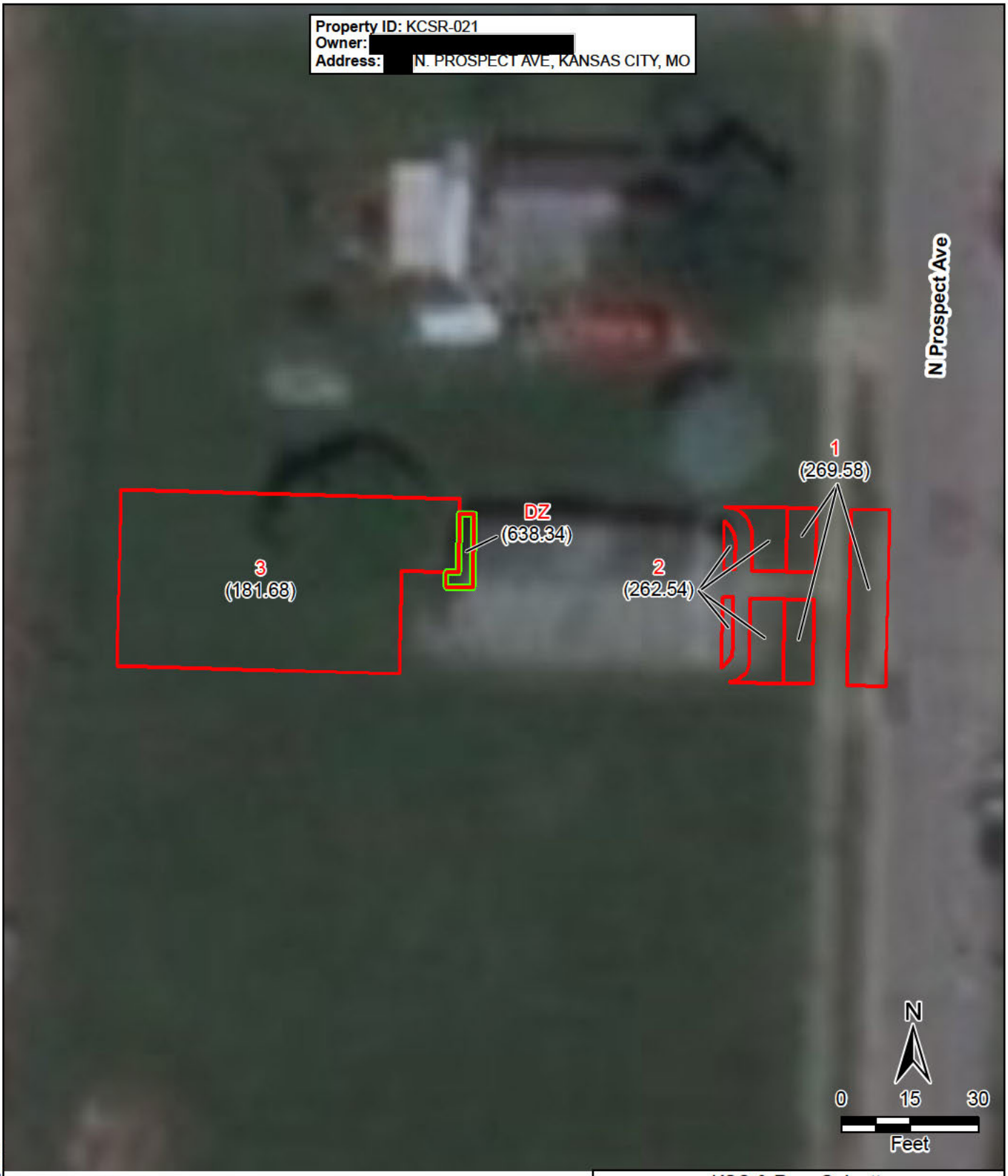

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-021
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-022
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-023
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_023.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-024
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_024.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

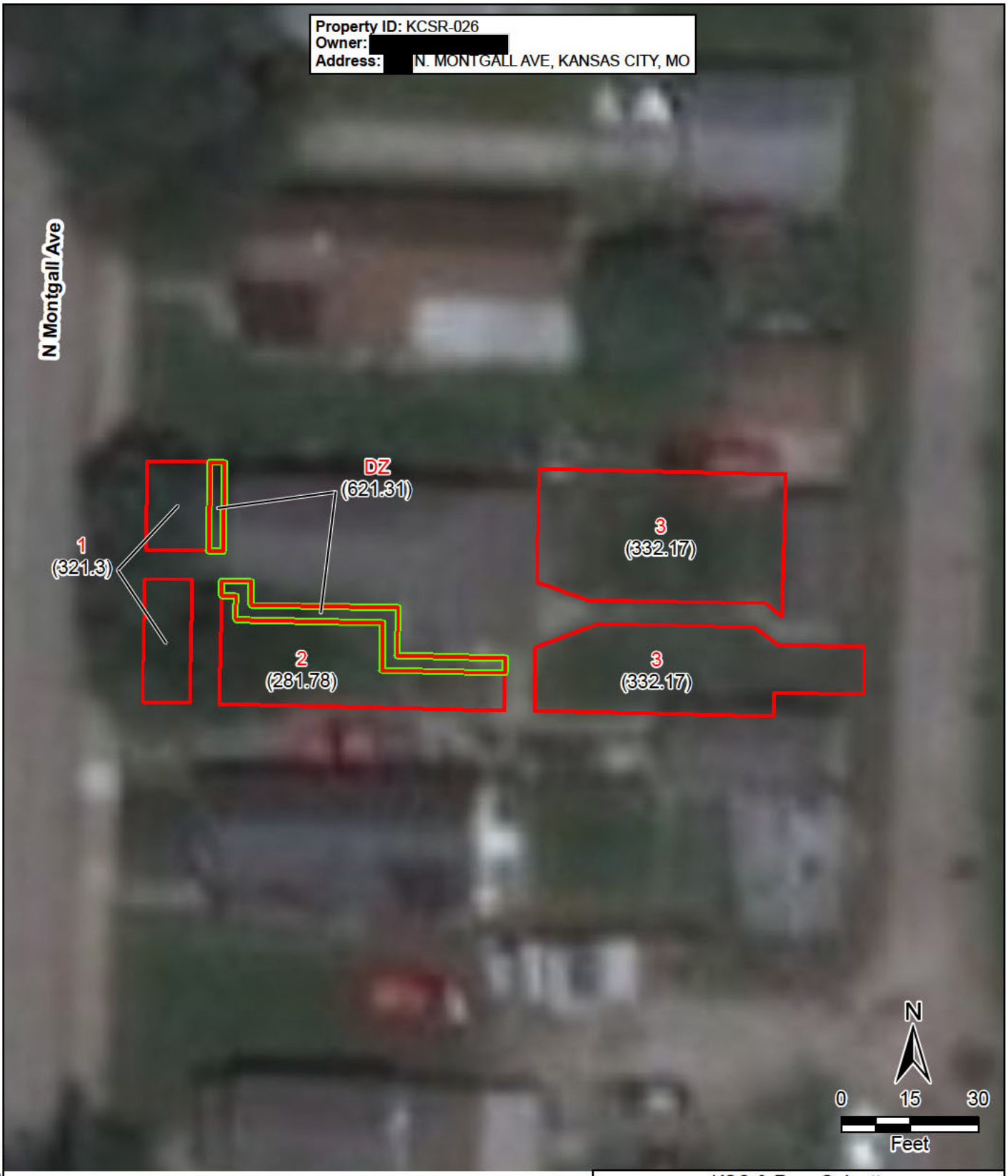
KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-025
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_025.mxd



Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-026
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_026.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-027
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_027.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-028
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_028.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-029
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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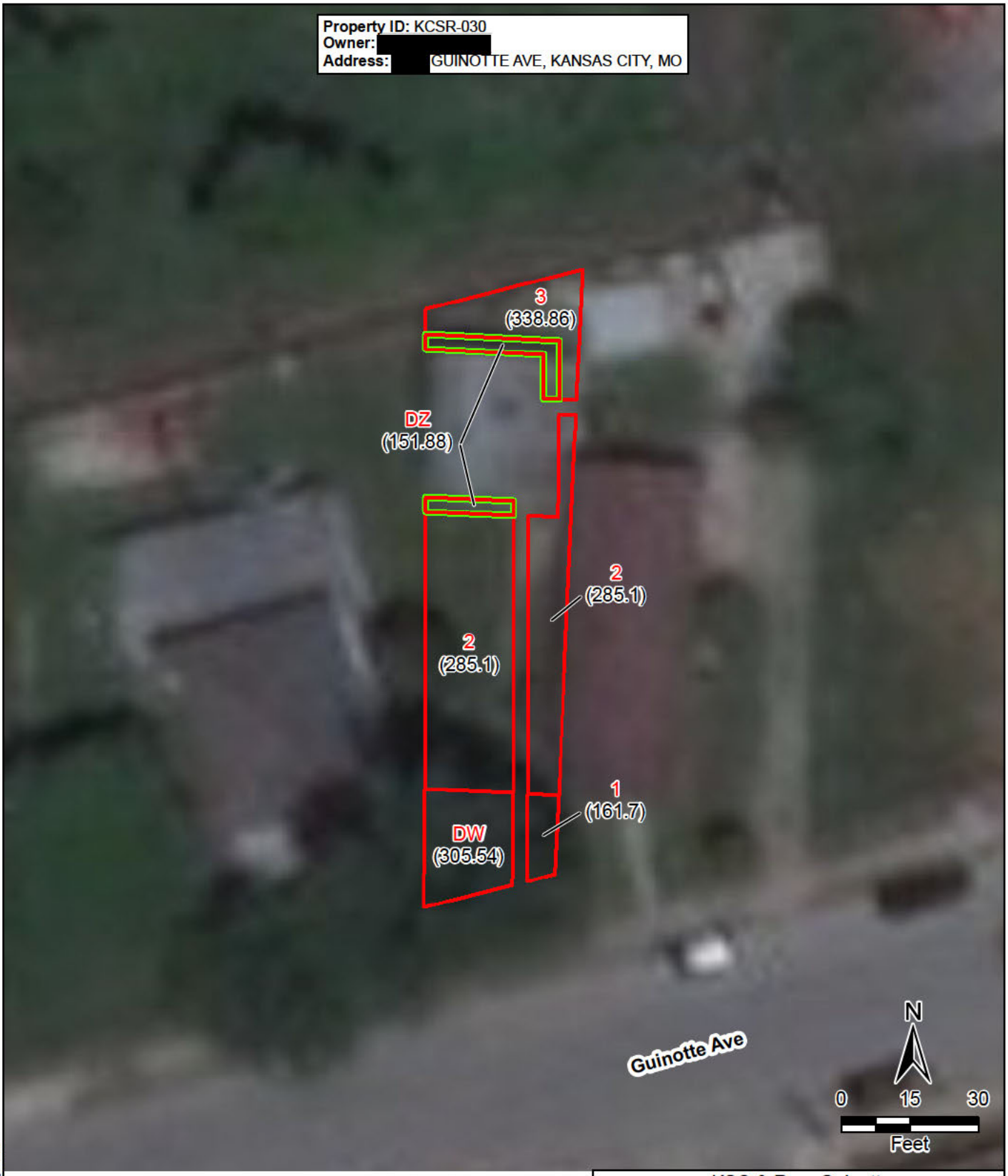

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-030
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_030.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-031
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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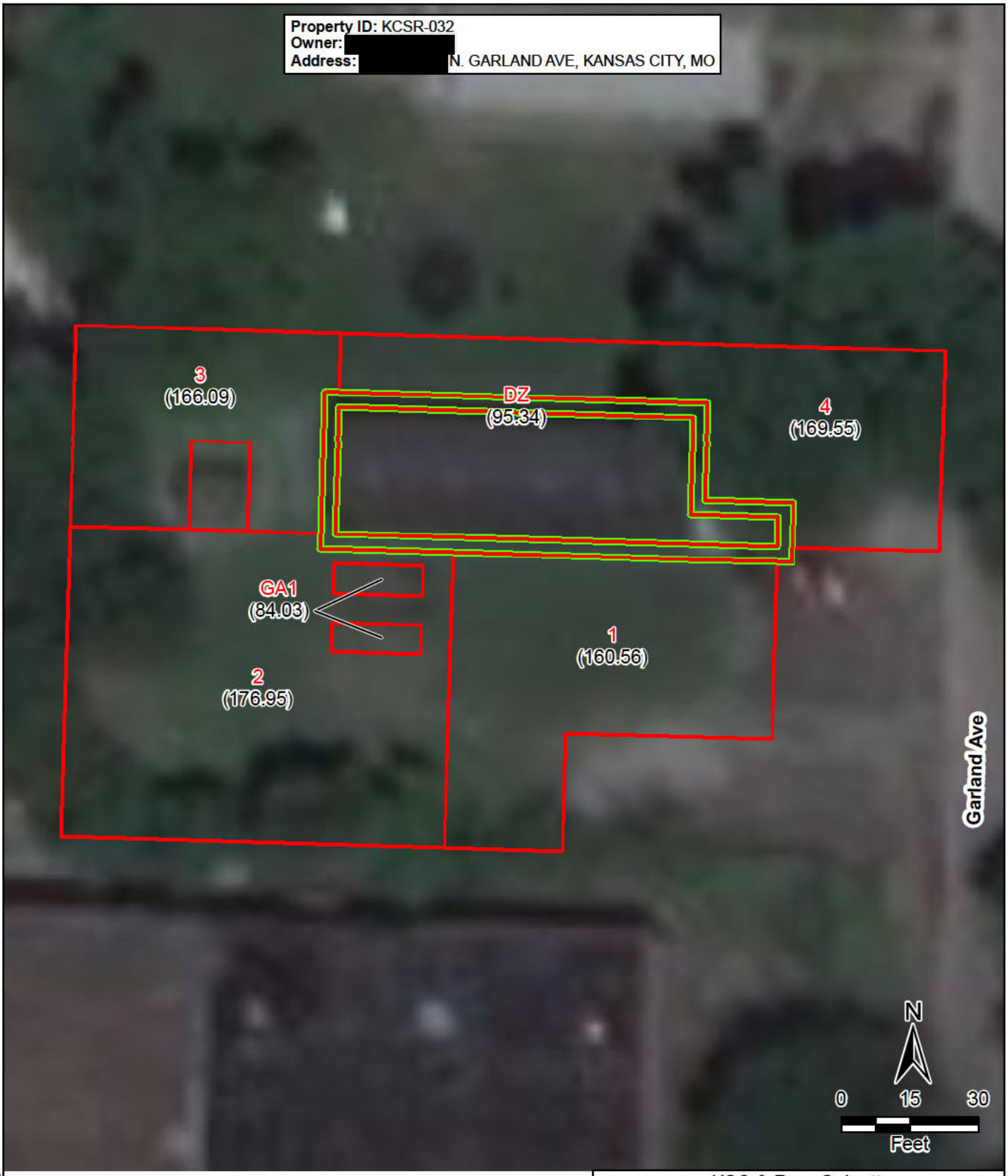

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-032
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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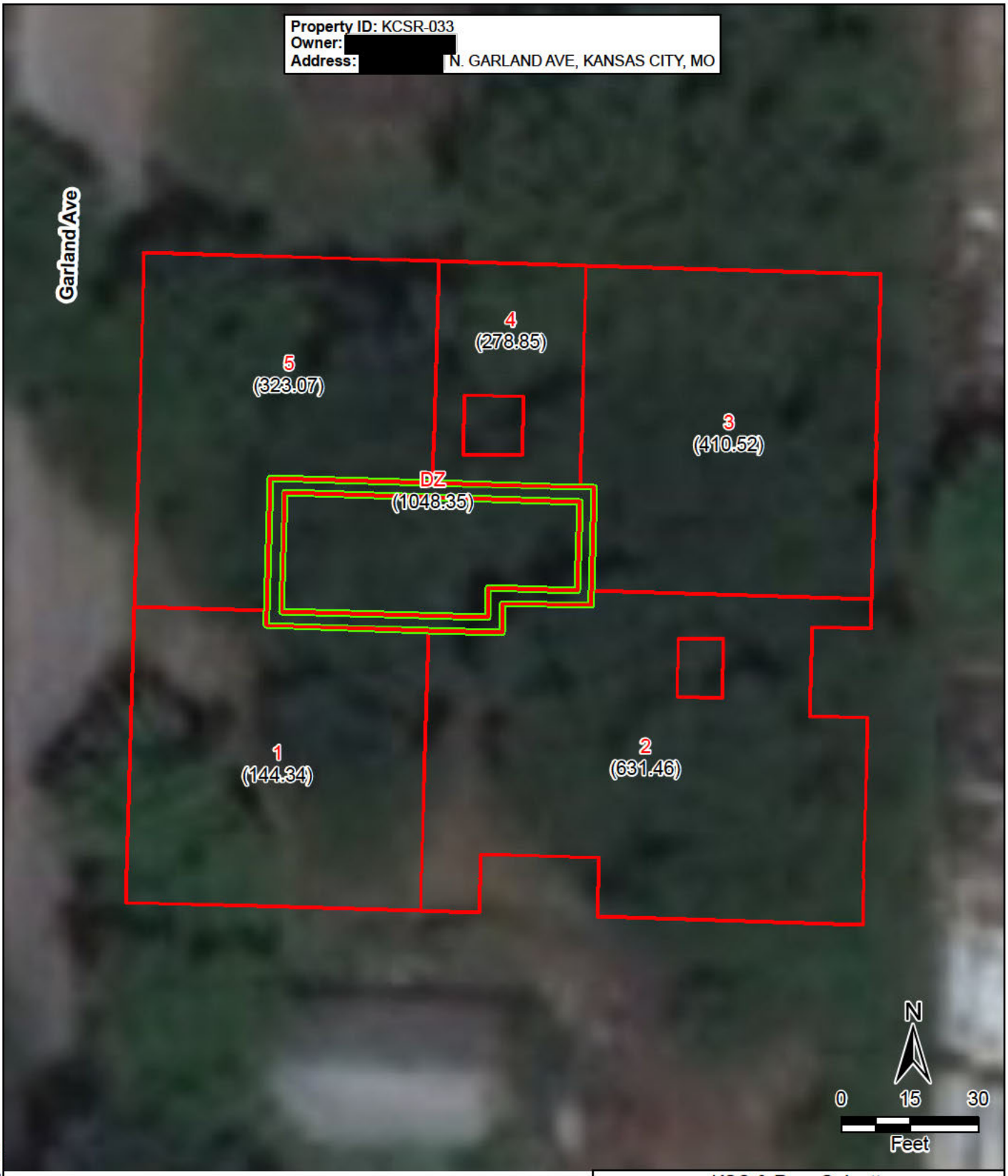

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-033
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

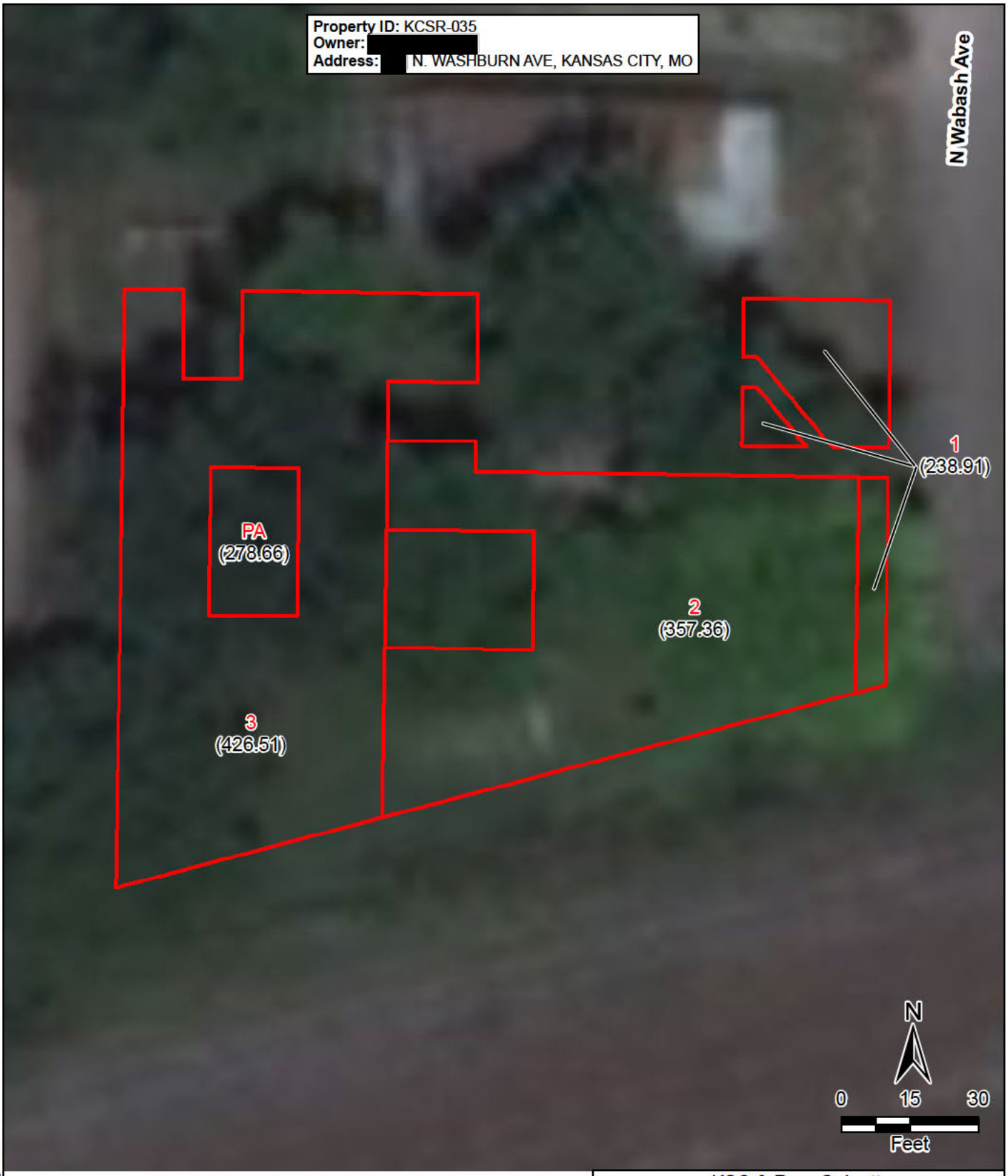
KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-034
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_034.mxd



Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-035
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_035.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-036
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_036.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

- ID Identification
- ppm Parts per million
- XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-037
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_037.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-038
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_038.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-039
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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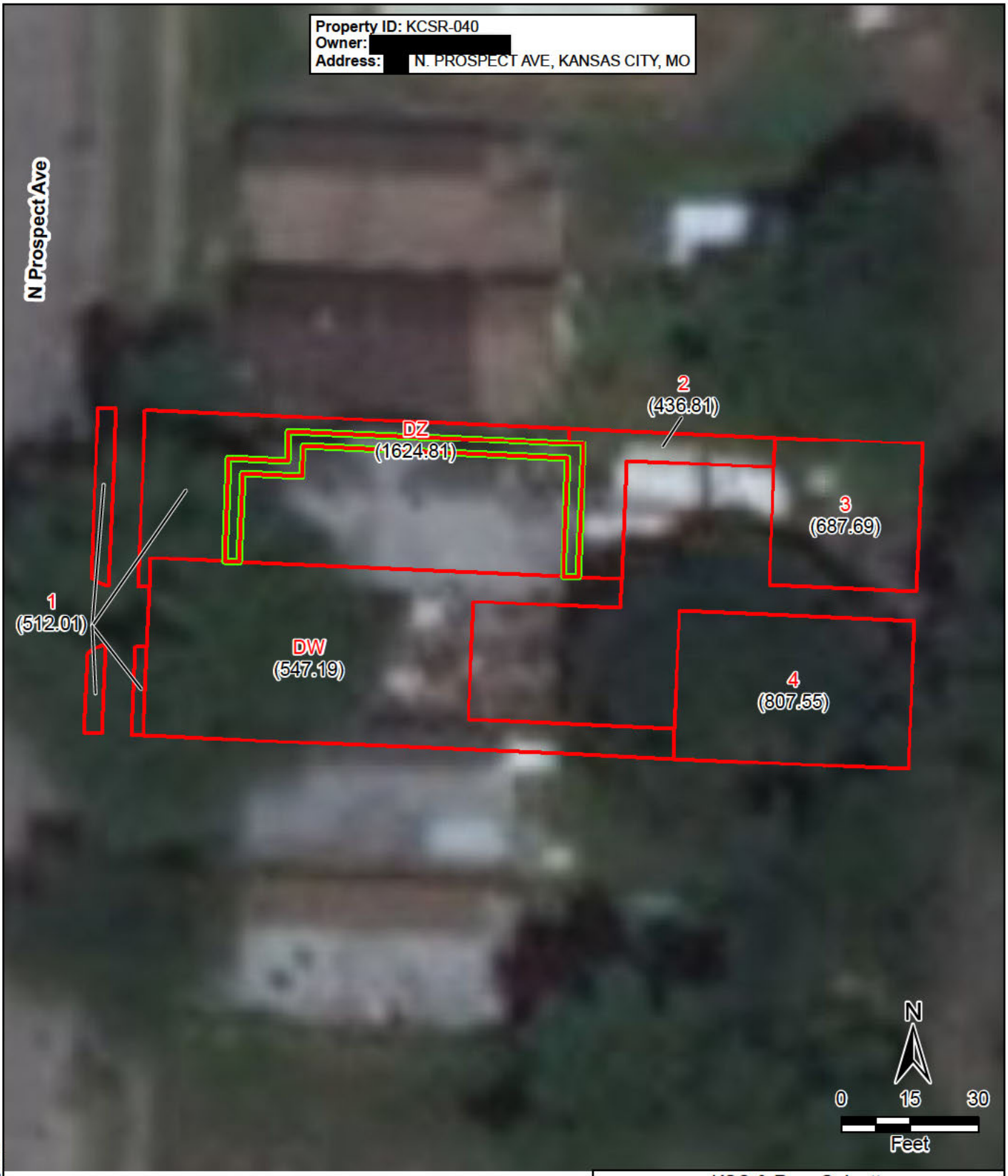


Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-040
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_040.mxd

Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

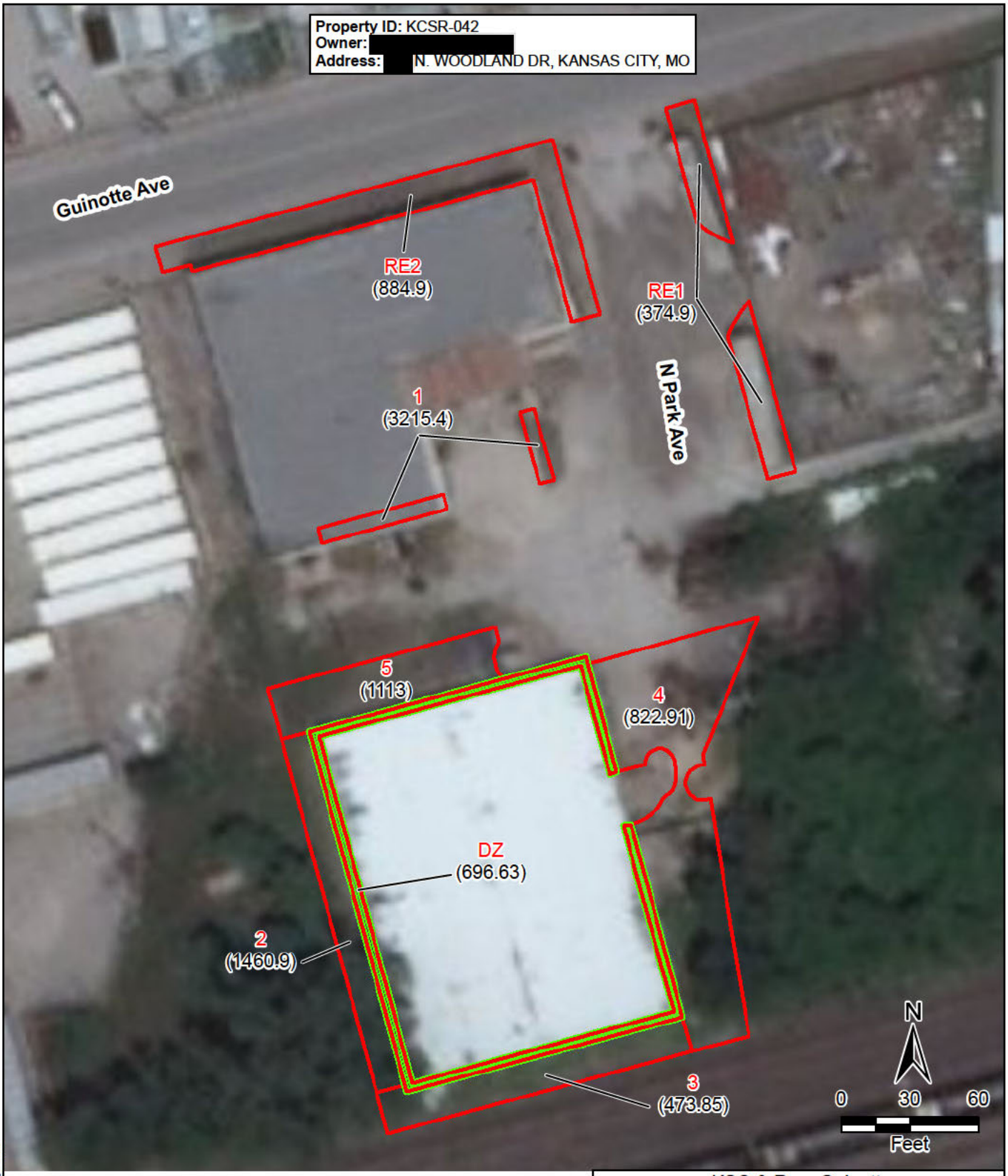
KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-041
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

C:\Users\Clayton.Hayes\Desktop\0179\Projects\mxd\KCSR_041.mxd



Legend

- Cell boundary
- Drip zone
- A Cell ID
- (121) XRF lead result (ppm)

ID Identification
ppm Parts per million
XRF X-ray fluorescence

Source: ArcGIS Online, World Imagery, 2017

KSC & R on Guinotte
2223 Guinotte Avenue
Kansas City, Missouri

Property ID: KCSR-042
XRF Sreening Map

TETRA TECH

Date 2/7/2019 Drawn By Clayton Hayes Project No X9025.17.0179.000

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APPENDIX D

SUMMARY OF ASSESSED PROPERTIES

SUMMARY OF ASSESSED PROPERTIES

SUMMARY OF ASSESSED RESIDENTIAL PROPERTIES
KCS&R ON GUINOTTE SITE – KANSAS CITY, MISSOURI

Property ID	Address	Greatest Lead Concentration (mg/kg)	Date Screened
KCSR-001	**[redacted] Guinotte Avenue**	**493.18**	**8/1/17**
KCSR-002	[redacted] Guinotte Avenue	361.63	8/1/17
KCSR-003	[redacted] Guinotte Avenue	292.93	8/1/17
KCSR-004	**[redacted] N Garland Avenue**	**600.15**	**8/1/17**
KCSR-005	**[redacted] Guinotte Avenue**	**545.65**	**8/1/17**
KCSR-006	Unassigned (lot north of [redacted] Guinotte Avenue)	267.01	8/1/17
KCSR-007	[redacted] Guinotte Avenue	393.71	8/1/17
KCSR-008	[redacted] Guinotte Avenue	369.85	8/1/17
KCSR-009	**[redacted] Guinotte Avenue**	**503.79**	**8/2/17**
KCSR-010	**[redacted] Guinotte Avenue**	**526.09**	**8/2/17**
KCSR-011	**[redacted] Wabash Avenue**	**404.91**	**8/2/17**
KCSR-012	**[redacted] N Wabash Avenue**	**439.05**	**8/2/17**
KCSR-013	[redacted] Guinotte Avenue (mobile home lot)	189.62	8/2/17
KCSR-014	[redacted] Guinotte Avenue (house)	269.87	8/2/17
KCSR-015	Nicholson Park (background)	31.48	8/2/17
KCSR-016	Berkley Riverfront Park (background)	182.65	8/2/17
KCSR-017	**[redacted] N Prospect Avenue**	**553.65**	**9/6/18**
KCSR-018	[redacted] N Garland Avenue	270.89	9/11/18
KCSR-019	[redacted] Guinotte Avenue	375.8	9/11/18
KCSR-020	**[redacted] N Prospect Avenue**	**579.74**	**9/11/18**
KCSR-021	[redacted] N Prospect Avenue	269.58	9/11/18
KCSR-022	[redacted] N Prospect Avenue	304.17	9/11/18
KCSR-023	[redacted] N Prospect Avenue	198.42	9/11/18
KCSR-024	**[redacted] N Prospect Avenue**	**492.77**	**9/11/18**
KCSR-025	**[redacted] N Montgall Avenue**	**670.93**	**9/11/18**
KCSR-026	[redacted] N Montgall Avenue	355.19	9/11/18
KCSR-027	**[redacted] N Montgall Avenue**	**685.64**	**9/11/18**
KCSR-028	**[redacted] N Montgall Avenue**	**666.41**	**9/11/18**
KCSR-029	[redacted] N Montgall Avenue	285.78	9/11/18
KCSR-030	[redacted] Guinotte Avenue	338.86	9/12/18
KCSR-031	[redacted] Guinotte Avenue	387.54	9/12/18
KCSR-032	[redacted] N Garland Avenue	176.95	9/12/18
KCSR-033	**[redacted] N Garland Avenue**	**631.46**	**9/12/18**
KCSR-034	[redacted] N Garland Avenue	345.99	9/12/18
KCSR-035	**[redacted] N Wabash Avenue**	**426.51**	**9/12/18**
KCSR-036	[redacted] N Montgall Avenue	317.07	9/12/18
KCSR-037	**[redacted] N Montgall Avenue**	**712.72**	**9/12/18**
KCSR-038	**[redacted] Rochester Avenue**	**405.47**	**9/12/18**
KCSR-039	[redacted] Rochester Avenue	293.05	9/12/18
KCSR-040	**[redacted] N Prospect Drive**	**807.55**	**9/12/18**
KCSR-041	**[redacted] N Prospect Drive**	**456.77**	**9/12/18**

Notes:

Bolded result indicates an average lead concentration greater than 400 mg/kg.

ID Identification

mg/kg Milligrams per kilogram

APPENDIX E

TABLES

TABLE 1

SUMMARY OF XRF AND LABORATORY CONFIRMATION SAMPLES
KCS&R ON GUINOTTE SITE – KANSAS CITY, MISSOURI

Sample Number	Property ID	Cell	Pb Lab (mg/kg)	Pb XRF (mg/kg)
Residential Properties				
7556-1	KCSR-001	C-3	286	342
7556-2	KCSR-010	C-1	344	274
7556-3	KCSR-012	C-1	439	414
7556-4	KCSR-013	C-1	190	162
7556-5	KCSR-016	C-1	183	149
8079-1	KCSR-018	C-2	238	234
8079-2	KCSR-020	C-1	497	496
8079-3	KCSR-023	C-3	193	200
8079-4	KCSR-025	C-1	671	691
8079-5	KCSR-027	C-3	686	708
8079-6	KCSR-030	C-1	162	208
8079-7	KCSR-032	C-3	166	181
8079-8	KCSR-033	C-2	631	564
8079-9	KCSR-034	PA-1	399	451
8079-10	KCSR-035	C-1	239	229
8079-11	KCSR-037	C-2	391	344
8079-12	KCSR-038	C-2	405	382
Former KCS&R Property				
8102-1	KCSR-042	C-1	3215	4230
8102-2	KCSR-042	DZ-1	2819	3030
8102-3	KCSR-042	RE-1	375	393
8102-4	KCSR-042	C-4	823	924
8102-5	KCSR-042	C-5	1113	1130
8102-6	KCSR-042	RE-2	885	981
8102-7	KCSR-042	DZ-2	697	823
8102-8	KCSR-042	C-3	474	464
8102-9	KCSR-042	C-2	1461	2290

Notes:

$r^2 = 0.971916$

mg/kg	Milligrams per kilogram
Pb	Lead
ID	Identification Number
r^2	Regression coefficient
XRF	X-ray fluorescence

TABLE 2

SUMMARY OF RCRA METALS IN SURFACE SOIL SAMPLES
KCS&R ON GUINOTTE SITE – KANSAS CITY, MISSOURI

Sample Number	Date Collected	Metals						
		Arsenic	Barium	Cadmium	Chromium	Lead	Selenium	Silver
		Concentration (mg/kg)						
Residential Properties								
KSCR-001, C-3	8/1/2017	**11**	320	**13.4 J**	14.1	342	10.4 UJ	2.1 U
KCSR-010, C-1	8/1/2017	**9.2**	174	5.8	11.6	274	10.2 U	2.0 U
KCSR-012, C-1	8/1/2017	**11.3**	236	**12.3**	16.2	**414**	10.4 U	2.1 U
KCSR-013, C-1	8/1/2017	**6.3**	150	5.9	14.8	162	10.5 U	2.1 U
KCSR-016, C-1	8/1/2017	**5.8**	98.5	5.3	15.2	149	10.4 U	2.1 U
KCSR-018, C-2	9/11/2018	**9**	207	5.4	18.5	234	3.6 UJ	1.0 U
KCSR-020, C-1	9/11/2018	**17.8**	273	**7.3**	31.5	**496**	3.5 UJ	0.99
KCSR-023, C-3	9/11/2018	**8.3**	245	5.6	17.7	200	3.5 UJ	1
KCSR-025, C-1	9/11/2018	**10.6**	241	5.3	19.7	**691**	3.4 UJ	0.97 U
KCSR-027, C-3	9/11/2018	**18.6**	387	**14.5**	24.1	**708**	3.5 UJ	1
KCSR-030, C-1	9/12/2018	**6.4**	179	4.5	21.4	208	3.7 UJ	1.0 U
KCSR-032, C-3	9/12/2018	**7.4**	228	4.2	31.1	181	3.5 UJ	1.0 U
KCSR-033, C-2	9/12/2018	**11.9**	429	**9.3**	32.8	**564**	3.2 UJ	0.92 U
KCSR-034, PA-1	9/12/2018	**12.4**	389	**9.3**	26.4	**451**	3.5 UJ	1.0 U
KCSR-035, C-1	9/12/2018	**31.7**	222	5.1	24.2	229	3.4 UJ	0.98 U
KCSR-037, C-2	9/12/2018	**12.5**	291	**10.5**	27.2	344	3.4 UJ	0.98 U
KCSR-038, C-2	9/12/2018	**12.1**	341	**26.3**	22.8	382	3.4 UJ	0.97 U
EPA Regional Screening Level (residential)		0.68	1,500	7.1	NE	400	39	39
Former KCS&R Property								
KCSR-042, C-1	12/18/2018	**30.2**	457	2.3	17.9	**4230**	10.3 U	2.1 U
KCSR-042, DZ-1	12/18/2018	**23.9**	363	2.2	16.5	**3030**	10.1 U	2.0 U
KCSR-042, RE-1	12/18/2018	**8.7**	108	1.0 U	13.6	393	9.6 U	1.9 U
KCSR-042, C-4	12/18/2018	**6.4**	74	1.0 U	12	**924**	10.0 U	2.0 U
KCSR-042, C-5	12/18/2018	**19.9**	128	1.6	11.4	**1130**	10.2 U	2.0 U
KCSR-042, RE-2	12/18/2018	**6.6**	127	1.0 U	15.3	**981**	10.0 U	2.0 U
KCSR-042, DZ-2	12/18/2018	**5.9**	87	1.0 U	8.4	**823**	10.2 U	2.0 U
KCSR-042, C-3	12/18/2018	**33.5**	130	12.2	22.6	464	10.9 U	2.2 U
KCSR-042, C-2	12/18/2018	**95.2**	209	6.3	12.7	**2290**	10.7 U	5.6
EPA Regional Screening Level (industrial)		3	22,000	98	NE	800	580	580

Notes:

Bolded text indicates values above regional screening levels.

J	Estimated value
mg/kg	Milligrams per kilogram
NE	Not established
RCRA	Resource Conservation and Recovery Act
U	Analyte not detected at concentration above method detection limit

TABLE 3

SUMMARY OF BIOAVAILABILITY SAMPLE RESULTS
KCS&R ON GUINOTTE SITE – KANSAS CITY, MISSOURI

Sample Number	Percent Relative Lead Bioavailability	XRF Lead Value (mg/kg)
KCSR-001, C-3	68	342
KCSR-010, C-1	70	274
KCSR-012, C-1	67	414
KCSR-013, C-1	66	162
KCSR-016, C-1	63	149

Notes:

EPA	U.S. Environmental Protection Agency
ID	Identification
mg/kg	Milligrams per kilogram
UC	University of Colorado
XRF	X-ray fluorescence

APPENDIX F

FIELD SHEETS AND CHAIN-OF-CUSTODY RECORDS

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S) (MONTH / DAY / YEAR)	SHEET
Joe Davis	KCS & R on Grinnotte	9 / 11-12 / 2018	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE	~~GLASS~~ BOTTLE	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	SAMPLED MEDIA: WATER	SOLID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
8079-1		1					X				
8079-2		↓					X				
8079-3							X				
8079-4							X				
8079-5							X				
8079-6							X				
8079-7							X				
8079-8							X				
8079-9							X				
8079-10							X				
8079-11							X				
8079-12		↓					X				
											Samples hand-delivered in box @ Room Temp, NO

ASR complete

DESCRIPTION OF SHIPMENT

12 CONTAINER(S) CONSISTING OF _____ CRATE(S)

1 ICE CHEST(S): OTHER box

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER airline metals

✓ SAMPLER CONVEYED

_____ (SHIPPING AIRBILL NUMBER) 111.18

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
Lauren Hart ☐ SEALED ☐ UNSEALED X	11/1/18	1600	Nicole Bailey ☐ SEALED ☐ UNSEALED X	11/1/18	1600	Analysis
RELINQUISHED BY (PM/SAMPLER) X ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM/SAMPLER) ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (PM/SAMPLER) ☐ SEALED ☐ UNSEALED	DATE	TIME	RECEIVED BY ☐ SEALED ☐ UNSEALED	DATE	TIME	REASON FOR CHANGE OF CUSTODY

7-EPA-9262 (REV 4/17) Other Versions Are Obsolete

WHITE ORIGINAL - EPA LAB • YELLOW - EPA PROJECT MANAGER

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 1 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-1-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: [redacted] N Garland Avenue (C-2)
KCSR-018

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 9/11/18 09:23
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:
(N/A)

Max XRF: 240.35 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 2 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-2-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-020 [redacted] N Prospect Avenue (C-1)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)		**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/11/18	10:11
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

Max XRF: 502.71 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 3 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-3-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-023 [redacted] N. Prospect Avenue (C-3)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)		**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/4/18	11:15
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

Max XRF: 209.52 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 4 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-4-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-025 [redacted] N. Montgall Avenue (C-1)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 9/11/18 12:10
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:
(N/A)

Max XRF: 731.97 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 5 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-5-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-027 [redacted] N. Montgall Avenue (C-3)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)		**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/11/18	12:50
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

Max XRF: 730.63 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 6 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-6-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-030 [redacted] Guinotte Avenue (C-1)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)		**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/12/18	09:10
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

Max XRF: 169.21 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 7 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-7-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-032 [redacted] N. Garland Avenue (C-3)

External Sample Number: _____

Expected Conc:	(or Circle One: Low Medium High)	**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/12/18	10:00
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

MAR XRF: 176.76 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 8 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-8-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-033 [redacted] N. Garland Avenue (C-2)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 9/12/18 10:30
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

Max XRF: 932.67 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 9 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-9-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: ~~front~~ ASR-034 [redacted] N. Garland Avenue (PA-1)

External Sample Number: _____

Expected Conc:	(or Circle One: Low Medium High)	**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/12/18	10:48
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

Max XRF: 409.73 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 10 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-10-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-035 ~~N. NO~~ [redacted] N. Washburn (C-1)

External Sample Number: _____

Expected Conc:	(or Circle One: Low Medium High)	**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/12/18	11:00
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:

(N/A)

max XRF: 242.85 ppm

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 11 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-11-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-C37 [redacted] N. Montgall Avenue (C-2)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High)		**Date**	**Time(24 hr)**
Latitude: ___ ___ ___	**Sample Collection: Start:**	9/12/18	13:15
Longitude: ___ ___ ___	**End:**	__/__/__	__:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:
(N/A)

Max LRF: 411.41

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8079 **Sample Number:** 12 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8079-12-__

Project ID: JDB7E1 **Project Manager:** Joe Davis
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-038 [redacted] Rochester Avenue (C-2)

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 9/12/18 13:30
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Sample Comments:
(N/A)

Max XRF: 417.46

Sample Collected By: TT

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

EPA PROJECT MANAGER (Print)	SITE OR SAMPLING EVENT	DATE OF SAMPLE COLLECTION(S) MONTH / DAY / YEAR	SHEET
Y. Smith	#8102	12 / 18 / 18	1 of 1

CONTENTS OF SHIPMENT

ASR AND SAMPLE NUMBER	TYPE OF CONTAINERS: 1 L PLASTIC BOTTLE (ziplock bag)	BOTTLE	BOTTLE	BOTTLE	VOA SET (3 VIALS EA)	SAMPLED MEDIA: WATER	SOLID	HAZ WASTE	AIR	OTHER	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBER(S) OF CONTAINERS PER SAMPLE NUMBER										
8102-1	1						X				
2	↓						↓				
3											
4											
5											
6											
7											
8											
9											

Complete

Samples hand-delivered @ room temp. No ice per instructions. 12/19/18

DESCRIPTION OF SHIPMENT

9 CONTAINER(S) CONSISTING OF ______ CRATE(S)

______ ICE CHEST(S): OTHER ______

MODE OF SHIPMENT

______ COMMERCIAL CARRIER ______

✓ SAMPLER CONVEYED ______ (SHIPPING AIRBILL NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (PM/SAMPLER)	DATE	TIME	RECEIVED BY	DATE	TIME	REASON FOR CHANGE OF CUSTODY
Lauren Holt — SEALED / UNSEALED ☒	12/19/18	1415	Nicole Roblez — SEALED / UNSEALED ☒	12/19/18	1415	Analysis
SEALED / UNSEALED			SEALED / UNSEALED			
SEALED / UNSEALED			SEALED / UNSEALED			
SEALED / UNSEALED			SEALED / UNSEALED			

7-EPA-9262 (REV 4/17) *Other Versions Are Obsolete* WHITE ORIGINAL - EPA LAB • YELLOW - EPA PROJECT MANAGER

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 1 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-1-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR - 042 C-1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:00
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 3560 ppm
XRF # 1532

KCSR-042
C-1

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 2 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-2-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 DZ-1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:05
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 2923 ppm
XRF # 1532
KCSR-042 DZ-1

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 3 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-3-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 RE-1

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:10
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 382 ppm
XRF # 1532
KCSR-042 RE-1

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 4 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-4-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 C-4

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:15
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 1193 ppm

XRF # 1532

KCSR-042 C-4

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 5 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-5-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 C-5

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:20
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 1238 ppm
XRF # 1532
KCSR-042 C-5

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 6 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-6-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 RE-2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:25
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)
Max XRF: 941 ppm
XRF # 1532
KCSR-042 RE-2

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 7 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-7-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 DZ-2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:30
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time		Analysis
1 - 8 oz glass	4 Deg C	180	Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180	Days	1 TCLP Metals in Soil
0 -	4 Deg C	0	Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 363
XRF # 1532
KCSR-042 DZ-2

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 8 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-8-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 C-3

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:35
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time		Analysis
1 - 8 oz glass	4 Deg C	180	Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180	Days	1 TCLP Metals in Soil
0 -	4 Deg C	0	Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF: 493 ppm

XRF: 1532

KCSR-042 C-3

Sample Collected By: TT

Sample Collection Field Sheet
US EPA Region 7
Kansas City, KS

ASR Number: 8102 **Sample Number:** 9 **QC Code:** __ **Matrix:** Solid **Tag ID:** 8102-9-__

Project ID: YSB7E1 **Project Manager:** Yvonne Smith
Project Desc: KCS & R on Guinotte sampling
City: Kansas City **State:** Missouri
Program: Superfund
Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Location Desc: KCSR-042 C-2

External Sample Number: _____

Expected Conc: (or Circle One: Low Medium High) **Date** **Time(24 hr)**

Latitude: ___ ___ ___ **Sample Collection: Start:** 12/18/18 12:40
Longitude: ___ ___ ___ **End:** __/__/__ __:__

Laboratory Analyses:

Container	Preservative	Holding Time	Analysis
1 - 8 oz glass	4 Deg C	180 Days	1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES
1 - 8 oz glass	4 Deg C	180 Days	1 TCLP Metals in Soil
0 -	4 Deg C	0 Days	1 Percent Solid

Sample Comments:

(N/A)

Max XRF : 16000 ppm

XRF # 1532

KCSR-042 C-2

Sample Collected By: TT

APPENDIX G

EPA REGION 7 LABORATORY DATA

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 10/06/2017

Subject: Transmittal of Sample Analysis Results for ASR #: 7556

Project ID: JDB7E1

Project Description: KCS & R on Guinotte sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch, Environmental Sciences & Technology Division

To: Joe Davis
SUPR/AERR/RRNS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

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If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

cc: Analytical Data File.

Project Manager: Joe Davis **Org:** SUPR/AERR/RRNS **Phone:** 913-551-7909

Project ID: JDB7E1

Project Desc: KCS & R on Guinotte sampling

Location: Kansas City **State:** Missouri **Program:** Superfund

Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Purpose: Site Cleanup Support **GPRA PRC:** 303DC6

Residential lead soil sampling and documentation to support a Removal Assessment.

Submitted ASR from EPA PM/Sampler noted that this site is not subject to a litigation hold at this time.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

= Field Sample

Units: Specific units in which results are reported.

% = Percent
mg/kg = Milligrams per Kilogram

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.
J = The identification of the analyte is acceptable; the reported value is an estimate.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

ASR Number: 7556 **Sample Information Summary** **10/06/2017**

Project ID: JDB7E1 **Project Desc:** KCS & R on Guinotte sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 -		Solid	KCSR-001, C3 ([redacted] Guinotte Avenue)		08/01/2017	13:30			09/07/2017
2 -		Solid	KCSR-010, C1 ([redacted] Guinotte Avenue)		08/02/2017	09:15			09/07/2017
3 -		Solid	KCSR-012, C1 (Vacant lot - NE corner of Wabash Ave & the alley)		08/02/2017	10:30			09/07/2017
4 -		Solid	KCSR-013, C1 (Mobile Home Park - NE corner of Wabash Ave & Guinotte Ave)		08/02/2017	10:37			09/07/2017
5 -		Solid	KCSR-016, C1 (Berkley Park)		08/02/2017	13:00			09/07/2017

Analysis **Comments About Results For This Analysis**

1 Percent Solid

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3142.9H

Basis: N/A

Samples: 1- 2- 3- 4- 5-

Comments:
(N/A)

1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3122.3F

Basis: Dry

Samples: 1- 2- 3- 4- 5-

Comments:
Cadmium (72,69,75-105) was J-coded in sample 1. Although the analyte in question has been positively identified in the sample, the quantitation is an estimate (J-coded) due to low recovery of this analyte in the laboratory matrix spike. The actual concentration for this analyte may be higher than the reported value.

Selenium (52,54,75-108) was UJ-coded in sample 1. This analyte was not found in the sample at or above the reporting limit, however, the reporting limit is an estimate (UJ-coded) due to low recovery of this analyte in the laboratory matrix spike. The actual reporting limit for this analyte may be higher than the reported value.

ASR Number: 7556 **RLAB Approved Sample Analysis Results** **10/06/2017**

Project ID: JDB7E1 **Project Desc:** KCS & R on Guinotte sampling

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 Percent Solid					
Solids, percent	%	97.1	97.4	96.4	96.8
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES					
Arsenic	mg/kg	11.0	9.2	11.3	6.3
Barium	mg/kg	320	174	236	150
Cadmium	mg/kg	13.4 J	5.8	12.3	5.9
Chromium	mg/kg	14.1	11.6	16.2	14.8
Lead	mg/kg	342	274	414	162
Selenium	mg/kg	10.4 UJ	10.2 U	10.4 U	10.5 U
Silver	mg/kg	2.1 U	2.0 U	2.1 U	2.1 U

Analysis/ Analyte	Units	5-__
1 Percent Solid		
Solids, percent	%	96.6
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES		
Arsenic	mg/kg	5.8
Barium	mg/kg	98.5
Cadmium	mg/kg	5.3
Chromium	mg/kg	15.2
Lead	mg/kg	149
Selenium	mg/kg	10.4 U
Silver	mg/kg	2.1 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 12/06/2018

Subject: Transmittal of Sample Analysis Results for ASR #: 8079

Project ID: JDB7E1

Project Description: KCS & R on Guinotte sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch
Environmental Sciences & Technology Division

To: Joe Davis
SUPR/AERR/RRNS

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our ENST records management system.

Please contact us within 14 days of receipt of this package if you determine there is a need for any changes. Please complete the Online ASR Sample/Data Disposition and Customer Survey for this ASR as soon as possible. The process of disposing of the samples for this ASR will be initiated 30 days from the date of this transmittal unless an alternate release date is specified on the Online ASR Sample/Data Disposition and Customer Survey. It is critical that we receive your response in accordance to RCRA and the laboratory accreditation.

If you have any questions or concerns relating to this data package, contact our customer service line at 913-551-5295.

Enclosures

Project Manager: Joe Davis **Org:** SUPR/AERR/RRNS **Phone:** 913-551-7909

Project ID: JDB7E1

Project Desc: KCS & R on Guinotte sampling

Location: Kansas City **State:** Missouri **Program:** Superfund

Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Purpose: Site Cleanup Support **GPRA PRC:** 000DC6

Residential lead soil sampling and documentation to support a Removal Assessment.

Submitted ASR from EPA PM/Sampler (LH) noted that this site is not subject to a litigation hold at this time.

GPRA/site code (+OU) check OK per JN on 11/1/2018.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

mg/kg = Milligrams per Kilogram

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.
UJ = The analyte was not detected at or above the reporting limit. The reporting limit is an estimate.

ASR Number: 8079 **Sample Information Summary** **12/06/2018**

Project ID: JDB7E1 **Project Desc:** KCS & R on Guinotte sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 - __		Solid	KCSR-018, [redacted]N Garland Avenue (C-2)		09/11/2018	09:23			11/02/2018
2 - __		Solid	KCSR-020, [redacted]N Prospect Avenue (C-1)		09/11/2018	10:11			11/02/2018
3 - __		Solid	KCSR-023, [redacted]N. Prospect Avenue (C-3)		09/11/2018	11:15			11/02/2018
4 - __		Solid	KCSR-025, [redacted] N. Montgall Avenue (C-1)		09/11/2018	12:10			11/02/2018
5 - __		Solid	KCSR-027, [redacted] N. Montgall Avenue (C-3)		09/11/2018	12:50			11/02/2018
6 - __		Solid	KCSR-030, [redacted] Guinotte Avenue (C-1)		09/12/2018	09:10			11/02/2018
7 - __		Solid	KCSR-032, [redacted] N. Garland Avenue (C-3)		09/12/2018	10:00			11/02/2018
8 - __		Solid	KCSR-033, [redacted]N. Garland Avenue (C-2)		09/12/2018	10:30			11/02/2018
9 - __		Solid	KCSR-034, [redacted]N. Garland Avenue (PA-1)		09/12/2018	10:48			11/02/2018
10 - __		Solid	KCSR-035, [redacted] N. Washburn (C-1)		09/12/2018	11:00			11/02/2018
11 - __		Solid	KCSR-037, [redacted]N. Montgall Avenue (C-2)		09/12/2018	13:15			11/02/2018
12 - __		Solid	KCSR-038, [redacted] Rochester Avenue (C-2)		09/12/2018	13:30			11/02/2018

Analysis **Comments About Results For This Analysis**

1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Lab: Contract Lab Program (Out-Source)

Method: CLP Statement of Work

Basis: Dry

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__ 10-__ 11-__ 12-__

Comments:

Selenium in samples -1 through -12 was UJ-coded. This analyte were not found in the samples at or above the reporting limits, however, the reporting limits are an estimate (UJ-coded) due to negative recoveries of these analytes in the interference check samples (ICS) which were not present in the ICS solution but whose absolute values were greater than the method detection limits (MDL), therefore, a possibility of false negatives exists. The actual reporting limits may be higher than the reported values.

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES					
Arsenic	mg/kg	9.0	17.8	8.3	10.6
Barium	mg/kg	207	273	245	241
Cadmium	mg/kg	5.4	7.3	5.6	5.3
Chromium	mg/kg	18.5	31.5	17.7	19.7
Lead	mg/kg	234	496	200	691
Selenium	mg/kg	3.6 UJ	3.5 UJ	3.5 UJ	3.4 UJ
Silver	mg/kg	1.0 U	0.99 U	1.0	0.97 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES					
Arsenic	mg/kg	18.6	6.4	7.4	11.9
Barium	mg/kg	378	179	228	429
Cadmium	mg/kg	14.5	4.5	4.2	9.3
Chromium	mg/kg	24.1	21.4	31.1	32.8
Lead	mg/kg	708	208	181	564
Selenium	mg/kg	3.5 UJ	3.7 UJ	3.5 UJ	3.2 UJ
Silver	mg/kg	1.0	1.0 U	1.0 U	0.92 U

Analysis/ Analyte	Units	9-__	10-__	11-__	12-__
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES					
Arsenic	mg/kg	12.4	31.7	12.5	12.1
Barium	mg/kg	389	222	291	341
Cadmium	mg/kg	9.3	5.1	10.5	26.3
Chromium	mg/kg	26.4	24.2	27.2	22.8
Lead	mg/kg	451	229	344	382
Selenium	mg/kg	3.5 UJ	3.4 UJ	3.4 UJ	3.4 UJ
Silver	mg/kg	1.0 U	0.98 U	0.98 U	0.97 U

United States Environmental Protection Agency
Region 7
300 Minnesota Avenue
Kansas City, KS 66101

Date: 01/31/2019

Subject: Transmittal of Sample Analysis Results for ASR #: 8102

Project ID: YSB7E1

Project Description: KCS & R on Guinotte sampling

From: Margaret E.W. St. Germain, Chief
Laboratory Technology & Analysis Branch
Environmental Sciences & Technology Division

To: Yvonne Smith
SUPR/AERR

Enclosed are the analytical data for the above-referenced Analytical Services Request (ASR) and Project. The Regional Laboratory has reviewed and verified the results in accordance with procedures described in our Quality Manual (QM). In addition to all of the analytical results, this transmittal contains pertinent information that may have influenced the reported results and documents any deviations from the established requirements of the QM.

Please ensure that you file this electronic (.pdf only) transmittal in your records management system. The Regional Laboratory will now retain all of the original hardcopy documentation (e.g. COC[s] and the R7LIMS field sheet[s], etc.) according to our ENST records management system.

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Enclosures

Project Manager: Yvonne Smith **Org:** SUPR/AERR **Phone:** 913-551-7795

Project ID: YSB7E1

Project Desc: KCS & R on Guinotte sampling

Location: Kansas City **State:** Missouri **Program:** Superfund

Site Name: KCS & R ON GUINOTTE - Site Evaluation/Disposition **Site ID:** B7E1 **Site OU:** 00

Purpose: Site Cleanup Support **GPRA PRC:** 000DC6

Residential lead soil sampling and documentation to support a Removal Assessment.

Submitted ASR from EPA PM/Sampler (LH) dated 11/19/18 noted that this site is not subject to a litigation hold at this time.

GPRA/site code (+OU) check OK per JN on 11/27/18.

Explanation of Codes, Units and Qualifiers used on this report

Sample QC Codes: QC Codes identify the type of sample for quality control purpose.

__ = Field Sample

Units: Specific units in which results are reported.

mg/L = Milligrams per Liter
mg/kg = Milligrams per Kilogram
% = Percent

Data Qualifiers: Specific codes used in conjunction with data values to provide additional information on the quality of reported results, or used to explain the absence of a specific value.

(Blank)= Values have been reviewed and found acceptable for use.
U = The analyte was not detected at or above the reporting limit.

ASR Number: 8102 **Sample Information Summary** **01/31/2019**

Project ID: YSB7E1 **Project Desc:** KCS & R on Guinotte sampling

Sample No	QC Code	Matrix	Location Description	External Sample No	Start Date	Start Time	End Date	End Time	Receipt Date
1 - __		Solid	KCSR-042, C-1		12/18/2018	12:00			12/19/2018
2 - __		Solid	KCSR-042, DZ-1		12/18/2018	12:05			12/19/2018
3 - __		Solid	KCSR-042, RE-1		12/18/2018	12:00			12/19/2018
4 - __		Solid	KCSR-042, C-4		12/18/2018	12:15			12/19/2018
5 - __		Solid	KCSR-042, C-5		12/18/2018	12:20			12/19/2018
6 - __		Solid	KCSR-042, RE-2		12/18/2018	12:25			12/19/2018
7 - __		Solid	KCSR-042, DZ-2		12/18/2018	12:30			12/19/2018
8 - __		Solid	KCSR-042, C-3		12/18/2018	12:35			12/19/2018
9 - __		Solid	KCSR-042, C-2		12/18/2018	12:40			12/19/2018

Analysis **Comments About Results For This Analysis**

1 Percent Solid

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3142.9H

Basis: N/A

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__

Comments:

1 TCLP Metals in Soil

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3122.3G TCLP

Basis: N/A

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__

Comments:

1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES

Lab: Region 7 ESAT Contract Lab (In-House)

Method: EPA Region 7 RLAB Method 3122.3G

Basis: Dry

Samples: 1-__ 2-__ 3-__ 4-__ 5-__ 6-__ 7-__
8-__ 9-__

Comments:

Analysis/ Analyte	Units	1-__	2-__	3-__	4-__
1 Percent Solid					
Solids, percent	%	94.3	95.3	97.8	97.5
1 TCLP Metals in Soil					
Lead	mg/L	4.62	5.08	0.154	0.298
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES					
Arsenic	mg/kg	30.2	23.9	8.7	6.4
Barium	mg/kg	457	363	108	74.0
Cadmium	mg/kg	2.3	2.2	1.0 U	1.0 U
Chromium	mg/kg	17.9	16.5	13.6	12.0
Lead	mg/kg	4230	3030	393	924
Selenium	mg/kg	10.3 U	10.1 U	9.6 U	10.0 U
Silver	mg/kg	2.1 U	2.0 U	1.9 U	2.0 U

Analysis/ Analyte	Units	5-__	6-__	7-__	8-__
1 Percent Solid					
Solids, percent	%	97.1	96.5	93.7	90.8
1 TCLP Metals in Soil					
Lead	mg/L	0.665	0.313	0.526	0.050 U
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES					
Arsenic	mg/kg	19.9	6.6	5.9	33.5
Barium	mg/kg	128	127	87.0	130
Cadmium	mg/kg	1.6	1.0 U	1.0 U	12.2
Chromium	mg/kg	11.4	15.3	8.4	22.6
Lead	mg/kg	1130	981	823	464
Selenium	mg/kg	10.2 U	10.0 U	10.2 U	10.9 U
Silver	mg/kg	2.0 U	2.0 U	2.0 U	2.2 U

Analysis/ Analyte	Units	9-__
1 Percent Solid		
Solids, percent	%	90.7
1 TCLP Metals in Soil		
Lead	mg/L	0.308
1 Total Metals Analysis of TCLP Metals in Soil by ICP-AES		
Arsenic	mg/kg	95.2
Barium	mg/kg	209
Cadmium	mg/kg	6.3
Chromium	mg/kg	12.7
Lead	mg/kg	2290
Selenium	mg/kg	10.7 U
Silver	mg/kg	5.6